



# **UNDERGRADUATE BULLETIN 2018 - 2019**

**NYU SHANGHAI**  
**上 海 纽 约 大 学**



UNDERGRADUATE BULLETIN  
2018-2019

1555 Century Ave  
Pudong, Shanghai  
China 200122

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# { Part I }

## **Introduction and Overview**

# *This is NYU Shanghai* 这就是上海纽约大学

NYU Shanghai is the third degree-granting campus in NYU's global network, joining NYU in New York and NYU Abu Dhabi. It is a world-class, comprehensive liberal arts and sciences research university in the heart of Shanghai, and unlike any other university in the world.

Since 1831, NYU has proudly been in and of the city of New York, unencumbered by gates, intimately woven into the identity and landscape of one of the great idea capitals of the world. In the heart of Greenwich Village, the NYU community has flourished, gaining as much from the city as it has contributed.

Just as NYU is proudly in and of the city of New York, NYU is also proudly in and of the city of Shanghai, another great idea capital and a magnet for the best of intellect, culture, and inquiry from all over the world. But Shanghai is like no other place: a city of the future, it also has its own history and traditions, which are a vital part of its fabric. With its diverse resources—the educational foundation of NYU and the vibrancy and relevance of Shanghai—NYU Shanghai is where your classroom education intersects with a life's education.



## The NYU Shanghai Vision

NYU Shanghai exemplifies the highest ideals of contemporary higher education by uniting the intellectual resources of New York University's global network with the multidimensional greatness of China. It guides students toward academic and moral excellence, preparing them for leadership in all walks of life, and it contributes to the endless quest for new insights into the human condition and the natural world.

### Values

NYU Shanghai operates in accord with the values of curiosity, rigor, integrity, respect, harmony, responsibility, and deep engagement with all humanity.

### Mission

In teaching, NYU Shanghai aspires to prepare its students for lives of discovery, satisfaction and contribution. They will study with superb teachers who nurture their capacity for original, rigorous, and critical thinking, and with diverse and intellectually gifted classmates. They will pursue a liberal education in the humanities, social sciences, natural sciences, and mathematics. They will immerse themselves in English, the language of international communication. They will master the skills of cross-cultural effectiveness in a community where half are from China and half are from other lands. They will reflect upon the role that great cities play in human progress, and upon the interdependent relationship between China and the rest of the world.

In research, NYU Shanghai aspires to produce original, rigorous, and important insights across a broad set of academic domains. Such insights do more than extend existing knowledge in predictable ways; they provide fresh understanding that is fully consistent with our observations and at the same time promise to have a significant influence on the thinking of others.

In public service, NYU Shanghai aspires to promote healthy development within the many communities it inhabits. It strives to be a responsible actor in the individual lives of students, teachers, and staff; in the local neighborhoods that surround its campus; in the district of Pudong, the city of Shanghai, and the nation of China; in East China Normal University; in New York University; in the interdependent society of humankind; and in a fully global ecosystem.

### Research at NYU Shanghai

NYU Shanghai will continue in the great tradition of universities that combine world-class research with exceptional teaching. Research Institutes are focused on Mathematics, Computational Chemistry, Neuroscience, Physics, and Social Development with a Center for Big Data for Society and Business and a Center for Global Asia opening this year. Both graduate and undergraduate students at NYU Shanghai will have the opportunity to participate in research opportunities.



## OVERVIEW

The NYU Shanghai academic experience is characterized by rigor, a global perspective, and a strong foundation in the liberal arts and sciences. Several distinct features define the NYU Shanghai approach and make it unique:

### ***A Truly Innovative Core Curriculum***

As our world evolves, education needs to evolve to meet the needs of 21st century students. The NYU Shanghai core curriculum is defined by a global orientation. Students explore social and cultural foundations through courses that span cultures and contexts, both Chinese and international. Writing and language courses develop students' communication skills in both English and Chinese. Mathematics and science are a part of every student's education, as are courses which introduce or strengthen a student's understanding of algorithmic thinking.

### ***Playing to Our Strengths***

NYU Shanghai has carefully developed a set of majors and specializations that capitalize not just on the world-class strength of NYU faculty, departments, and programs, but also on the limitless possibilities that Shanghai provides.

## PARTNERS

### **East China Normal University**

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ECNU is a high-level normal university founded in October 1951. The university is made up of 19 full-time schools and colleges, two unconventional (nontraditional distance learning and continuing education) colleges and five advanced research institutes, with 58 departments offering 70 undergraduate programs. It has over 4,000 faculty and staff and more than 28,000 students.

### **Shanghai Municipal Education Commission**

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The Shanghai Municipal Education Commission (SMEC) is responsible for determining the local policies and direction of the educational system in Shanghai.

### **Pudong New Area Government**

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Since the beginning of its development in 1990 when plans were first announced, Pudong has become a major economic development zone and has emerged as China's financial and commercial hub. The NYU Shanghai academic building is located along Century Avenue in Pudong, a location as central to Shanghai as Fifth Ave is to Manhattan.



## WHERE WE ARE

### Academic Building

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The NYU Shanghai academic building located on Century Avenue in Pudong is surrounded by bustling activity, a lively community, and some of the most iconic buildings in the world—all right in the heart of a thriving economy and Shanghai's commercial center.

Fifteen stories tall, with two additional levels underground. It includes an expansive library, which will house an extensive physical and electronic collection with access to NYU's global library resources; a 300-seat auditorium; a 150-person colloquium space; a theater, music, and arts hall; and kitchen and dining facilities. Also generously equipped with classrooms capable of accommodating varying class sizes, dedicated floors for teaching and practical laboratories for various sciences, intimate study spaces, and faculty and administrative offices, the building functions as a campus unto itself and as the center of a thriving academic community. Wireless IT services and a robust IT infrastructure ensure that the building, and by extension, the students and faculty, remain fully connected to the NYU global network.

### Residence Hall

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The NYU Shanghai residence halls is located in the

JinQiao area of Pudong. Housed in three towers of the Green Center complex, the residence hall is located within an international hub with easy access to both local and international shops and restaurants. By living alongside fellow students and Resident Assistants, students will form intimate communities and the walls of the classroom will be broken down, allowing for education and an exchange of ideas to continue and flourish, unfettered by class schedules.

### Location

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At NYU Shanghai, students receive the support, engage in the activities, and participate in the community that they would expect from any other university in the world—except they'll have China as their canvas.

Just minutes away from the Century Avenue academic building, students will find a fully equipped athletics center that all NYU Shanghai students can use.

Beyond the walls of the residence hall are neighborhoods begging to be explored: the

dazzling lights of the Bund, the winding labyrinthine passages of Taikang Lu, and the picturesque solitude of the Lujiazui Boardwalk are just some of the places where students can while away an afternoon, eat xiaolongbao, and take in the sights and sounds.

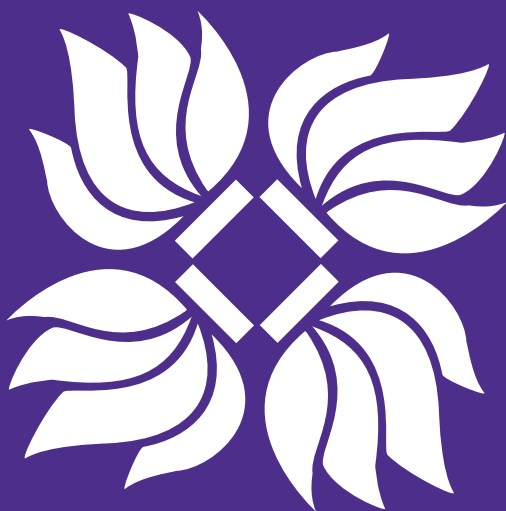
And beyond the city limits of Shanghai, the country of China is available: the Great Wall, the Lingyin Temple, the Forbidden City, the Chengdu Panda Reserve, and more. China is, after all, a country with a vast, varying geography and demography, and a history no longer confined to just the pages of a book, but completely within reach of all NYU Shanghai students.

# { Part II }

## Enrollment

Everything you need to know about:

- Admission
- Tuition, Fees, and Financial Aid
- Registration, Advisement, and Counseling
- Degree Requirements



# *Admission*

Admission to NYU Shanghai is highly selective. Students are admitted based on the overall strength of their application, including rigor of curriculum and grades, extracurricular activities, teacher and counselor evaluations, and a demonstrated interest in global citizenship, service, and leadership.

NYU Shanghai Office of Undergraduate Admissions in Shanghai  
(9am – 5pm China Standard Time)  
Tel: +86 21 2059-5599  
[shanghai.admissions@nyu.edu](mailto:shanghai.admissions@nyu.edu)

NYU Office of Undergraduate Admissions in New York  
(9am – 5pm Eastern Standard Time)  
Tel: +1 212-998-4500  
[shanghai.admissions@nyu.edu](mailto:shanghai.admissions@nyu.edu)

## Recommended High School Preparation

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All applicants should pursue the most challenging curriculum available to them, as the rigor of a student's coursework will weigh heavily in the admissions process. NYU Shanghai considers a record of Honors, Advanced Placement (AP), International Baccalaureate (IB), A-Level or other high-level coursework to be an essential component of a successful application. In addition to advanced level courses, most successful applicants include many of the following areas of study in their high school programs:

- *English—four years of English with a heavy emphasis on writing*
- *Math—three to four years*
- *History/Social Studies—three to four years*
- *Science—three to four years*
- *Foreign Language—three to four years*

Please note that NYU Shanghai's language of instruction is English; therefore, it is required that all applicants have a high level of fluency in both written and spoken English. English language testing is not required for admission, but most non-native English speakers will be asked to participate in a Skype interview with a member of the admissions team.

## Applying to NYU Shanghai and Other NYU Campuses

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Students can indicate their interest in being considered for admission to NYU Shanghai in addition to programs at NYU's campuses in New York City and Abu Dhabi on the Common Application.

## Financial Support

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NYU Shanghai is committed to providing the best financial aid package available based on an individual family's needs. As such, we invite all applicants, regardless of citizenship, to apply for financial aid through NYU Shanghai. US citizens and permanent residents should file the FAFSA and the CSS Profile; non-US citizens or permanent residents need only file the CSS Profile.

## Transfer Applicants

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NYU Shanghai currently only accepts first-year students. If you have already begun a university degree and are interested in applying, please contact our admissions office for more details.

## Transfer Applicants Within the University

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Students do not need to fill out an application to switch majors within NYU Shanghai. If a student wishes to explore the option of permanently transferring to another NYU campus, they must discuss their options with their academic advisor and the Dean of Students, who will counsel the student on when and if they may switch campuses.

## Study Away Students

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NYU undergraduate students from New York and Abu Dhabi may attend NYU Shanghai as full-time students for one or more semesters. Students should apply to study away through NYU's Office of Global Programs.

## Special Undergraduate (Visiting Students)

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Students from other four-year accredited undergraduate universities may attend NYU Shanghai as full-time students for one or more semesters. Students should apply to study away through NYU's Office of Global Programs.

## Readmission of Former Students

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Any former student who has been out of attendance for more than two consecutive terms and who wishes to return to NYU Shanghai must apply for readmission. Applications for readmission are available online (See next page for admission application deadlines). Requests for readmission should be received by the following dates: April 1 for the Summer and Fall terms, and November 1 for the Spring term.

## Special (Postgraduate) Students

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NYU Shanghai is not currently accepting postgraduate students to take undergraduate classes.

## Advanced Standing

NYU Shanghai does not award credit for work completed at another college or university. If a student receives a 4 or 5 on select Advanced Placement (AP) exams, a 6 or 7 on select Higher Level International Baccalaureate exams, or took certain foreign maturity certificate examinations, he or she may be eligible to place out of a core requirement. Students can learn more details from their academic advisors and the Registrar.

## How to Apply

### USA/International

***US/International students applying to NYU Shanghai may follow the same procedures for applying to any of NYU's degree-granting campuses:***

- Apply to NYU Shanghai via the Common App (add NYU then ensure that Shanghai is listed as a campus of application on the Questions page)
- Submit test scores per our testing requirements (NYU Shanghai's US and International Standardized Testing Policy is the same as that of all of NYU's degree-granting campuses)
- Submit requested academic records and school reports
- Submit requested teacher and counselor recommendation letters
- Apply for Financial Assistance via the CSS Profile and FAFSA, if applicable, by stated deadlines

Please apply in accordance with the following

#### *Early Decision I*

Application Deadline	Nov 1
Notification Deadline	Dec 15
Response to an offer of admission	Jan 9

#### *Early Decision II*

Application Deadline	Jan 1
Notification Deadline	Feb 15
Response to an offer of admission	Mar 1

#### *Regular Decision*

Application Deadline	Jan 1
Notification Deadline	Apr 1
Response to an offer of admission	May 1

## How to Apply for Financial Aid

All applicants (regardless of citizenship) will need to submit the CSS PROFILE application (and Noncustodial PROFILE, if applicable) for NYU Shanghai need-based grant consideration by:

- Early Decision I: November 15 (to receive a financial aid award in mid-December)
- Early Decision II: January 15th (to receive a financial aid award in mid-February)
- Regular Decision: February 15th (to receive a financial aid award by April 1)



# Chinese Applicants Admissions Regulations

## 上海纽约大学2018年招生方案（中国大陆学生）

上海纽约大学将中美优质高等教育的优势相结合，精心打造注重激发和提升学生创新能力的课程体系、教学环境和培养模式，致力于将学生培养成为能够适应未来社会高速发展、全球化激烈竞争的精英人才。学生入学时不分专业，通过完成涵盖不同学科和领域的核心课程，在对各个学科的内容、前景，以及自身特点有了深入认识以后，最迟可在大二结束前完成专业的选择。从大三起学生可以选择前往纽约大学全球教育体系中的其他校园和学习中心进行为期1~2个学期的海外学习，大四返回上海完成本科学业。

上海纽约大学在全面审视每位申请学生的通用申请和提交的材料基础上，通过“校园日活动”评价、高中学业和高考成绩相结合的招生录取模式，选拔出一批最适合上海纽约大学的优秀学生，而非采用高考成绩为单一依据的招生录取方法。其中，“校园日活动”是上海纽约大学首创的招生录取重要环节，着重考察学生的语言能力、综合素质，以及与学校的适合度和匹配度。

### 一、招生对象

上海纽约大学寻找的是学业优异、英语能力突出，具有强烈求知欲和好奇心，勇于挑战自我，乐于尝试新事物，能够适应国际化竞争环境，并且愿意成为跨文化沟通桥梁的优秀高中毕业生。

符合高考报名条件并参加2018年高考的学生均可申请报考上海纽约大学。

上海纽约大学对申请材料进行审核后，将从所有申请学生中邀请部分优秀学生参加“校园日活动”，并在考量学生“校园日活动”表现的基础上，结合高考、高中学业水平考试、综合素质评价等，通过高校招生综合评价体系录取学生。

### 二、招生计划

上海纽约大学2018年面向全国招收201名男生，招生计划不做分省安排，各省（自治区、直辖市）招生名额不设上下限，在所有申请学生中择优录取。

各省招生主管部门编印的《2018年普通高等学校招生专业和计划》中的上海纽约大学招生计

划数及专业名称，仅用于学生高考志愿填报，与各省（自治区、直辖市）最终录取人数和学生入学专业无关。

### 三、申请方式

#### 1. 提交“通用申请”（Common Application）

所有申请报考上海纽约大学的学生，都必须登录美国大学本科入学在线申请系统Common Application ([www.commonapp.org](http://www.commonapp.org))，填写“通用申请”，并于2018年1月1日前在网上提交。

注：可点击下载《通用申请填写指导教程》并按教程填写。“通用申请”填写比较复杂，为避免截止日期临近时，因系统繁忙而导致提交不成功的情况，建议学生至少提前一周提交。

#### 2. 在线填写并打印《上海纽约大学2018年校园日活动申请表》

完成“通用申请”注册步骤后，学生需在上海纽约大学“校园日活动报名系统” (<https://cn.application.shanghai.nyu.edu/>) 实名注册，按要求在线填写、提交并打印《上海纽约大学2018年校园日活动申请表》（打印纸张务必设置为A4纸格式大小）。

“校园日活动报名系统”为上海纽约大学招生线上中文报名系统，通过身份证实名注册唯一个人账号。登录“校园日活动报名系统”，申请学生可以在线完成：

（1）填写、提交、打印《上海纽约大学2018年校园日活动申请表》

（2）查看最新官方招生公告和常见问题解答

（3）查看各阶段申请状态和结果（申请状态和结果如有更新，将第一时间通过绑定的邮箱和手机告知）

（4）获得预录取和待录取资格的学生在线填写高考成绩

### 3. 寄送书面申请材料

完成以上申请步骤后，学生还须向上海纽约大学招生办提交以下书面申请材料，所有申请材料应清晰、真实、完整。每页材料须在右上角空白处手写注明申请学生的CommonAppID，用标准A4纸打印或复印，并按以下次序排放（申请材料请勿装订，不要加装各类订书针、封面、封底、装订夹等，以免剔除时误损申请材料）：

（1）《上海纽约大学2018年校园日活动申请表》（可在上海纽约大学“校园日活动报名系统”下载打印）

（2）高一、高二每学期期中期末成绩和高三期中成绩（须注明单科满分）、高中学业水平考试（会考）成绩复印件。以上材料均须加盖中学相关部门公章。如中学有既定的格式，以中学出具并加盖公章的成绩单为准。

上海、浙江的学生请同时提供已参加的选考科目成绩。

如发现成绩不实，经查实后一律取消学生的申请和录取资格，并将所在中学纳入非诚信学校。

（3）高中期间主要获奖证书复印件及其他证明自己特长和优势的材料（非必需）。

申请材料须于2018年1月1日前以快递方式邮寄至上海纽约大学招生办公室（以当地寄出日期为准）。所有申请材料恕不退还，请学生自行备份。

邮寄地址：上海市浦东新区世纪大道1555号，上海纽约大学招生办公室收

邮编：200122 联系电话：021-2059 5599

### 四、选拔程序

#### 1. 审核

上海纽约大学招生委员会将对学生的申请材料进行初审，并于2018年1月31日以电子邮件形式通知学生初审结果。

#### 2. “校园日活动”

初审合格的学生受邀参加上海纽约大学“校园日活动”，学校将通过模拟课堂、英文写作、

团队活动、个别面谈等方式考察学生的英语运用能力，以及求知欲、领导力、学习能力、适应能力、沟通表达能力、心理素质、团队精神等各方面素质。

“校园日活动”全程用英语进行，在春节后的周末分批进行，具体时间和地点将另行通知。

特别提醒：校园日活动全程用英语进行。

### 五、录取政策

上海纽约大学招生委员会将根据学生“校园日活动”表现，对每位学生进行严谨的评价和讨论，并给予相应录取政策：

A. 预录取：学生须参加2018年普通高考，高考成绩达到生源所在省本科第一批录取控制线（一二本录取批次合并的省为自主招生控制分数线，浙江为第一段分数线），上海纽约大学即予以录取。

B. 待录取：学生须参加2018年普通高考，高考成绩达到生源所在省本科第一批录取控制线（一二本录取批次合并的省为自主招生控制分数线，浙江为第一段分数线），上海纽约大学将结合学生申请过程中的各项因素，包括高考成绩，综合评定，择优录取。

如考生所在省级招生办公室另有规定，则按省招办规定办理。

### 六、学费及助学金

2018年入学本科生物学费：第一、二学年每年人民币120,000元，第三、四学年每年人民币180,000元。

被上海纽约大学录取的学生，学校将根据学生在“校园日活动”中的表现和申请材料给予部分学生奖学金。奖学金设二档，将按学期分四年发放：上海纽约大学全球典范奖，共人民币240,000元；上海纽约大学全球菁英奖，共人民币80,000元。

对于被上海纽约大学录取、但家庭无法承担学习和生活费用的学生，在学生按要求提供的家庭经济状况信息真实完整的前提下，学校将酌情提供助学金，学校不希望被录取的学生因家庭经济困难而失去终身发展的机会。

学生在校期间，还可申请国家助学贷款，及各

级奖助学金。学校还会提供大量校内外实习机会进一步帮助学生减轻经济负担。

## 七、颁发证书

上海纽约大学学生修学期满，符合毕业要求，将获得以下全日制本科证书：

1. 上海纽约大学学士学位证书（中华人民共和国教育部监制）
2. 上海纽约大学毕业证书（中华人民共和国教育部监制）
3. 美国纽约大学学士学位证书（美国纽约大学颁发）

## 八、监督机制

上海纽约大学的招生过程坚持公平、公开、公正的原则，保证不同经济背景、种族、性别、宗教信仰的学生都有机会申请入学，接受考生及家长与社会各界的监督。

监督电话：021-2059 5255

监督邮箱：shanghai.jiandu@nyu.edu

## 九、联系方式

学校网址：www.shanghai.nyu.edu

咨询热线：021-2059 5599

咨询邮箱：shanghai.admissions@nyu.edu

咨询现场：上海市世纪大道1555号上海纽约大学咨询中心

官方微博：上海纽约大学招生办（新浪微博）

官方QQ群：

NYUSH招生官方 - 华东 111393813

（上海、浙江、江苏、安徽、福建、江西、山东）

NYUSH招生官方 - 华北东北 312415903

（北京、天津、河北、山西、内蒙古、黑龙江、吉林、辽宁）

NYUSH招生官方 - 西南西北 584188864

（重庆、四川、贵州、云南、西藏、陕西、甘肃、青海、宁夏、新疆）

NYUSH招生官方 - 华中华南 605743020

（河南、湖北、湖南、广东、广西、海南、港澳台）

官方微信：NYUSHZS

# *Tuition, Fees, and Financial Aid*

When estimating the net cost to the family of a university education, a student should consider two factors: (1) the total cost of tuition, fees, and materials related to a particular program, plus costs directly related to the choice of living style (dormitory, apartment, and commuting costs) and (2) financial aid that may be available from a variety of sources. This section provides information on both of these distinct but related topics.

*The following is the schedule of fees established by NYU Shanghai for the year 2018-2019. NYU Shanghai reserves the right to alter this schedule without notice. Tuition, fees, and expenses can be expected to increase in subsequent years and will be listed in online updates to this Bulletin.*

Registration and school based fees cover additional expenses related to student course activities. Service fees also cover health services (separate from health insurance), emergency and accident coverage as well as basic fees necessary to support curriculum related technology..

**Note:** Separate course fees may be required for some courses. Students should consult the respective Albert course listing for information.

All fees are payable at the time of registration. The Office of the Bursar is located on the 10th floor of the campus building in room 1051. Online payments and wire transfers are to be paid to NYU Shanghai for the exact amount of the tuition and fees required. In the case of an overpayment, the balance is refunded in the 2nd month after each semester starts by the Office of the Bursar.

A fee will be charged if payment is not made by the term due date indicated on the student's statement.

## Cost of Attendance

The preliminary cost of attendance budget represents the estimated annual cost of education for full-time undergraduate students at NYU Shanghai in US dollars for the 2018-2019 academic year. It includes tuition, room and board (which may vary based on a student's room selection), health insurance, personal expenses, books and course materials, and many student life activities. The costs listed below are estimated for the 2018-2019 academic year only. Annual adjustments to the costs and fees at NYU Shanghai may be necessary and should be expected. The yearly tuition and residence costs include only full-time fall and spring enrollment; course overloads incur additional tuition, registration and service fee. Students that take summer session or January term courses will incur additional direct and indirect expenses. Direct expenses will be billed accordingly. Financial assistance may not be available for summer or January term sessions.

Indirect costs—such as estimated board, travel, supplies, and personal expenses—are costs that you may incur during the academic year, which will vary for each student. These indirect costs are not charged through NYU Shanghai.

### NYU Shanghai Estimated Cost of Attendance in US dollars for 2018-2019

#### Direct Costs: Costs that you will be charged by NYU Shanghai

#### Cost

Tuition, Registration and Services Fees*	\$50,464*
Health Insurance**	\$3,494**
Room	\$3,744
Estimated Books and Materials	\$1000

#### Indirect Costs: Other educational costs incurred

#### Cost

Board (Meals)	\$2,496
Estimated Supplies	\$300
Estimated Personal Expenses	\$1,000
Estimated Travel	3,750

#### Total Cost of Attendance (Estimated)

**\$66,152**

*\*Tuition, Registration and Services Fees, per unit (19 or more units) \$1,520. This charge will be assessed to students who take over 18 units.*

*\*\*Health insurance charges vary. The estimated maximum is \$3,632 for 2018-2019. Your direct charges may vary.*

*\*\*\*International students can use reliable exchange rate information while arranging financials in advance, official USD exchange rate will be published in July, 2018*

## Special Programs including Study Away

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The tuition paid to NYU Shanghai is the cost of tuition for a semester away in NYU's global network (for a standard full time course load). However, the cost of attendance varies between the global academic centers and degree-granting campuses, for other expenses (i.e. room, board, travel) for study in the NYU Study Away programs and in NYU International Exchange Programs. Students may refer to the cost estimator to get an estimate of their expected cost of attendance per semester.

## NYU January and Summer Terms

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Starting in their freshman year, students are eligible for NYU January term. After completion of the freshman year students are eligible for NYU summer terms. NYU's January and Summer terms allow students more flexibility and scheduling options. NYU Shanghai students have the opportunity to earn course credit or explore a new interest. During this time, students can take advantage of intensive study at NYU Shanghai or one of the global study away sites or other degree-granting campuses. Oftentimes, the fall and spring semesters can be overly hectic for students, considering a full-time course load, student club responsibilities, work, internship commitments, and social obligations. This busy time forces students to focus mainly on their academic progress, which doesn't always allow the freedom to explore a new interest or take advantage of the many cultural resources that originally drew them to Shanghai. Further information is available from the NYU Shanghai Office of Global Affairs. Students should be aware that there are additional tuition fees for January and summer terms outside of the fall and spring semesters. Typically financial aid is not available for the terms.

## Deferred Payment Plan (For U.S. students only)

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The Deferred Payment Plan allows students to pay 50 percent of their net balance due for the current term on the payment due date and defer the remaining 50 percent until later in the semester. This plan is available to students who meet the following eligibility requirements:

- Matriculated and registered for 6 or more points
- Without a previously unsatisfactory NYU

Shanghai credit record

- Not in arrears (past due) for any NYU Shanghai charge or loan

The plan includes a nonrefundable application fee of \$50, which is to be included with the initial payment on the payment due date.

A separate deferred payment plan application and agreement is required for each semester this plan is used. The Deferred Payment Plan will be available at [www.nyu.edu/bursar](http://www.nyu.edu/bursar) - Make a Payment starting in July for the fall semester and in December for the spring semester.

For additional information, please visit the website of the Office of the Bursar at <http://shanghai.nyu.edu/academics/tuition/us> or call +86 21 20596666.

## Arrears Policy

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NYU Shanghai reserves the right to deny registration and withhold all information regarding the record of any student who is in arrears in the payment of tuition, fees, loans, or other charges (including charges for housing, dining, or other activities or services) for as long as any arrears remain.

## Diploma Arrears Policy

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Diplomas of students in arrears will be held until their financial obligations to NYU Shanghai are fulfilled and they have been cleared by the Bursar. Graduates with a diploma hold may contact the Office of the Bursar at [shanghai.studentaccounts@nyu.edu](mailto:shanghai.studentaccounts@nyu.edu) or call +86 21 20596666 to clear arrears or to discuss their financial status.

## Withdrawal and Refund of Tuition

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A student who, for any reason, finds it impossible to complete one or more courses for which he or she has registered should consult with an academic advisor. An official withdrawal must be filed either on Albert (through the first three weeks of the term only) or in writing on a completed Request for Withdrawal form with the Office of the NYU Shanghai Registrar. (Note: An official withdrawal must be filed if a course has been canceled, and, in this case, the student is entitled to a refund of tuition and registration fees paid.) Withdrawal does

not necessarily entitle the student to a refund of tuition paid or a cancellation of tuition still due. A refund of tuition will be made provided such withdrawal is filed within the scheduled refund period for the term. (See below for the schedules.)

Merely ceasing to attend a class does not constitute official withdrawal, nor does notification to the instructor. A stop payment of a check presented for tuition does not constitute withdrawal, nor does it reduce the indebtedness to NYU Shanghai.

The date on which the Request for Withdrawal form is filed, not the last date of attendance in class, is considered the official date of the student's withdrawal. It is this date that serves as the basis for computing any refund granted the student. The processing of refunds takes approximately two weeks.

## Undergraduate Refund Schedule

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### Withdrawing From ALL Courses (Fall and Spring Only)

A refundable credit balance may result on your student account because of financial aid disbursements, over-payments and/or account adjustments. Before you get any refund, please make sure you have valid bank account information that you wish the refunds to go to in Bursar's records. If you are not sure about your account info, please contact us to update or add new accounts.

For details on Refund and Withdraw, please visit :

Chinese Students:

<https://shanghai.nyu.edu/academics/tuition/chinese/refunds-and-withdrawals>

US Students:

<https://www.nyu.edu/students/student-information-and-resources/bills-payments-and-refunds/refunds-and-withdrawals.html>

International Students:

<https://shanghai.nyu.edu/academics/tuition/international/refunds-and-withdrawals>

*Note: A student may not withdraw from a class after*

*the ninth week of the fall or spring semester or in the last two weeks of each six-week summer session.*

Exceptions to the published refund schedule may be appealed in writing to the Assistant Provost for Academic Affairs and should be supported by appropriate documentation regarding the circumstances that warrant consideration of an exception. Exceptions are rarely granted. Students who withdraw should review the above "Refunds" page on the Office of the Bursar's website.

U.S. federal regulations require adjustments reducing financial aid if a student withdraws even after the NYU refund period. Financial aid amounts will be adjusted for students who withdraw through the ninth week of the semester and have received any federal grants or loans. This adjustment may result in the student's bill not being fully paid. NYU will bill the student for this difference. The student will be responsible for payment of this bill before returning to NYU and will remain responsible for payment even if he or she does not return to NYU.

For any semester a student receives any aid, that semester will be counted in the satisfactory academic progress standard. This may require the student to make up credits before receiving any further aid. Please review the "satisfactory academic progress" standard so you do not jeopardize future semesters of aid.



## Eligibility for Financial Aid

Financial aid may be comprised of university scholarships, federal aid (for US citizens/official permanent residents of the United States), or outside scholarships. NYU Shanghai reviews all students for scholarship eligibility regardless of citizenship. For most undergraduates, eligibility for merit and/or need-based scholarships is determined by a student's prior academic strengths, and upon demonstration of financial need from the results of the submitted financial aid form(s) .

*To be considered for financial aid, students must be officially admitted to NYU Shanghai or as a current student, you would need to be matriculated in a degree program and making satisfactory academic progress toward degree requirements. In order to renew any of the NYU Shanghai scholarship and/or grant awards at the same amount that were offered upon admission to NYU Shanghai you must: apply for financial aid each year by the returning student recommended filing deadline and continue to demonstrate financial need; make satisfactory progress toward degree requirements; and enroll full time (12 credits or more) each semester. Please refer to <https://shanghai.nyu.edu/admissions/returning> for current details.*

Chinese nationals applying to NYU Shanghai will need to contact the NYU Shanghai Office of Admissions in the Shanghai Office (9:00 a.m.-5:00 p.m. China Standard Time): +86-21-2059-5599 for additional information regarding individual scholarship requirements.

Non-Chinese nationals applying to NYU Shanghai must follow the instructions below if they wish to be considered for financial aid.

## The College Scholarship Service (CSS) Profile

The CSS Profile is required of all applicants, regardless of citizenship, who would like to be considered for financial aid, including any scholarships/grants from NYU Shanghai. Note: students with divorced, separated, or unmarried biological parents will also need to have their noncustodial parent submit their own CSS Profile (or the NYU CSS Profile Waiver Request for the Noncustodial Parent with all supporting documentation) by the deadlines specified below to be considered for institutional scholarships/grants. Chinese nationals applying to NYU Shanghai (using the Gaokao to qualify for admission) should not complete the CSS Profile.

- Visit <https://cssprofile.collegeboard.org/to> begin and submit the CSS Profile for both your custodial and noncustodial parent (if applicable).
- Students needing a CSS Profile Waiver Request for the Noncustodial Parent should contact [shanghai.financial.support@nyu.edu](mailto:shanghai.financial.support@nyu.edu).
- The New York University CSS school code number is **2785**.
- The upcoming aid year's CSS Profile becomes available as of **October 1**.

### Freshman Applicants CSS Profile Deadlines:

	Early Decision I	Early Decision II	Regular Decision
CSS Profile	November 15	January 15	February 15
CSS Profile for the noncustodial parent (if applicable)	November 20	January 20	February 20
Estimated Award Notification	mid-December	mid-February	April



## The Free Application for Federal Student Aid (FAFSA)

NYU Shanghai is approved by the U.S. Department of Education to provide federal financial aid to eligible students who are U.S. citizens or official permanent residents of the U.S. Therefore, all U.S. citizens or official permanent resident applicants who would like to be considered for financial aid at NYU must submit the FAFSA in addition to the CSS Profile form.

- Visit <http://fafsa.gov> to begin and submit the FAFSA.
- You must list “New York University” as a recipient and include our federal school code number (002785) when completing your FAFSA.
- The upcoming aid year’s FAFSA becomes available as of October 1.

### *Freshman Applicants FAFSA Deadline:*

	Early DeciSion I	Early Decision II	Regular Decision
FAFSA	November 15 *	January 15 *	February 15
Award Notification	mid- December *	mid- February *	April

\* EARLY DECISION RECOMMENDED FILING DATE FOR FAFSA:

The FAFSA (NYU school code 002785) is required for federal financial aid and NYU scholarship consideration for all U.S. Citizens, Permanent Residents, and eligible non-citizens applying to our New York City campus and/or to NYU Shanghai. Early Decision admitted students who file and complete the FAFSA by the CSS Profile deadline will receive a financial aid package that includes federal financial aid eligibility at the time of admission. Early Decision admitted students who file and complete the FAFSA after the CSS Profile deadline will have their federal aid eligibility awarded upon receipt of the FAFSA. Use of the Data Retrieval Tool is preferred whenever possible..

### Student Responsibilities

- You must apply for financial aid each year to renew the need-based portion of the financial aid awarded at NYU.
- You should refer to <https://www.nyu.edu/admissions/financial-aid-and-scholarships/new-undergrad.html> for all financial aid application deadlines for freshman applicants. It is important to adhere to all applicable deadlines for aid consideration.
- Use NYU Albert at [albert.nyu.edu](http://albert.nyu.edu) to view and accept your financial aid awards.
- If you submit documents to the Office of Financial Support, please put your NYU University I.D. number on each page and keep a copy for yourself. Please avoid submitting originals as the documents cannot be returned to you.
- It is important that you understand the conditions of the awards you accept. Contact the Office of Financial Support at [shanghai.financial.support@nyu.edu](mailto:shanghai.financial.support@nyu.edu) if you have any questions.
- You must adhere to satisfactory academic progress standards to remain eligible for financial aid. The Office of Financial Support will send reminders, but it is the student’s responsibility to know and heed the requirements.
- You must notify the Office of Financial Support immediately if you receive an award or financial aid from any additional outside source. A change in your resources may affect the type of aid you may be eligibility for.
- You must respond immediately to all requests from the Office of Financial Support. Failure to comply may result in the cancellation of your aid.
- Consult with the Office of Financial Support immediately if you reduce your academic enrollment to fewer than 12 credits per semester or if you are enrolled full-time (at least 12 credits or more) but intend to begin part-time (less than 12 credits per semester) to discuss how those changes will impact your financial aid. Also contact the Office of Financial Support if there is a change in your housing status. A change in enrollment or housing status may affect the financial aid you receive.
- Be sure to notify the NYU University Office of the Registrar if you have a change of address by updating your contact information via NYU Albert at [albert.nyu.edu](http://albert.nyu.edu). We use the records from the Office of the Registrar to administer financial aid.

*Registration,  
Academic Advisement,  
and Counseling*

## **Registrar's Office**

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The NYU Shanghai Registrar's office provides academic services and information on registration throughout the year. Any student with a question or problem is invited to come to the Registrar's office at Room 1049 for assistance or to view its website at [shanghai.nyu.edu/academics/registration](http://shanghai.nyu.edu/academics/registration). Office hours are weekdays from 9 a.m. -11:30 a.m. and 1:00 p.m. to 5 p.m.

Students can complete their initial registration through Albert, NYU's online registration system, at [home.nyu.edu](http://home.nyu.edu). Students can also use Albert to make later adjustments to their schedule.

## **New Students**

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Newly admitted students receive detailed registration information a few weeks prior to orientation. New students meet with an academic advisor during orientation to discuss their class schedule and other academic questions.

## **Continuing Students**

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Students currently enrolled in NYU Shanghai register in November for the spring term and in April for the fall term. Before registering, students should plan a provisional schedule and put it in the "shopping cart" function of Albert. They should also discuss their program and courses with their advisor, who then clears them for registration. Students may use the "validate" function in Albert to validate all of the courses they would like to enroll in before their appointed registration time. At the appointed time or thereafter, students access Albert to finalize the course enrollment process. Students should complete registration by paying their tuition and fees. Online tuition statements and payment options are available through the Office of the Bursar. Students are also responsible for clearing other registration holds such as library holds.

## **Health Insurance and Immunization Policy**

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All full-time students must be in compliance with NYU Shanghai's health insurance and immunization requirements. For preregistration immunization requirements, please see: <http://www.nyu.edu/students/health-and-wellness/student-health-center/next-stop-health-requirements/shanghai.html>. If a student fails to comply, the student will not be allowed to register for classes until he or she is in full compliance. If the student does not receive clearance to register before the registration deadline for the semester, he or she will not be able to register and take classes until the next semester that they are in compliance. This policy includes first semester freshmen entering NYU Shanghai. The health insurance and immunization requirements of some study away sites and portal campuses may vary from those at NYU Shanghai. Students must be in compliance with those requirements during their semester abroad in order to be eligible for studying away at that site or campus.

## **Academic Advising**

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Academic advising is the process through which NYU Shanghai provides the necessary resources for students to make thoughtful choices in their academic studies. The primary purpose of academic advising is to assist students as they develop meaningful educational plans compatible with their life goals. Although the NYU Shanghai curriculum is well-defined, there will be opportunities, both within and beyond curricular constraints, for students to participate in courses and activities that support their academic and personal development.

While the ultimate responsibility for making decisions about life and educational plans rests with each individual student, academic advisors and faculty mentors assist students by suggesting options and by discussing possible outcomes of the choices they make. Students can expect that their academic advisors and faculty mentors in the majors will help them:

- Define academic goals and evaluate progress towards those goals;
- Understand academic policies and requirements, provide guidance during course selection, and provide help with identifying other meaningful educational experiences;

- Refer them to institutional and community support services for assistance if necessary;
- Monitor progress as they move through the undergraduate program.

Each semester, students are required to communicate with their academic advisor (and first and second year students to meet with their advisor) to review their registration plan for the following semester and ensure that they are making normal progress towards their degree. It is the individual student's responsibility to make certain that he or she fulfills the requirements for graduation.

A first year advising program provides individual advising for new students entering in August. Each student is assigned an advisor who can provide information and support during the transition to college. The advisors serve as a liaison with other offices and can make referrals when appropriate. Advisors are therefore the best source for students to visit when they are unsure of where to go for help. Throughout the year, students needing additional assistance may also make an individual appointment with the Assistant Dean for Academic Affairs.

### **The Academic Resource Center**

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The Academic Resource Center (ARC) provides tutoring and support to students looking to reach their highest academic potential. Students can schedule a meeting, or drop by the ARC, for the following:

- Individual and small-group tutoring in over 30 STEM, Business, Humanities, and Economics courses
- Individual writing consultations at any stage of the writing process
- Academic coaching in areas such as critical reading & note-taking strategies, and setting goals and managing multiple priorities
- Workshops on writing, creativity, applications and software

Students are also welcome to study on their own in the comfortable, supportive atmosphere of the Academic Resource Center.

### **Career Development Center**

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The NYU Shanghai Career Development Center (CDC) aims to provide comprehensive career guidance to the entire student body. The CDC collaborates with employers, alumni, faculty, other departments, and external organizations to provide a range of resources and opportunities for students to achieve personal and professional success.

Students may sign up for individualized appointments with a career coach throughout the year. An appointment with a career coach can help students with any of the following topics:

- Identifying and exploring career interests;
- Setting professional goals and developing an individual timeline;
- Effectively searching for internships and jobs in a particular field;
- Editing resumes and cover letters;
- Participating in a mock interview;
- Performing assessments to identify strengths, skills and interests;
- Exploring pre-professional and graduate school options;

Besides coaching appointments, students may find many other ways to gain professional skills and build connections to expand their network. The CDC offers robust career-related programming during the academic year including career fairs, career speakers, industry panels, skills workshops, alumni mentor matching, and much more.

### **Experiential Learning**

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One defining characteristic of the NYU educational experience is the opportunity students have to apply their classroom learning to real-life experiences in a variety of professional and community service settings. Shanghai provides such opportunities in abundance, and NYU Shanghai takes full advantage of its location in one of the financial, cultural, scientific, and media capitals of the world.

Many different types of opportunities are available to students; some involve volunteerism on the part of a student and some may be paid positions. Depending on their professional goals, students may choose to pursue off-campus internships, community service positions, research projects, competitions, conferences, and many other

opportunities. For the purpose of securing and making the most of such opportunities, students should consider the following guidance.

### **Internship Regulations**

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The visa requirements of the People's Republic of China do not allow international students to hold off-campus part-time jobs or paid internships. International students who wish to participate in off-campus internships must follow the Internship Registration Process to ensure that the position meets legal criteria and is registered with the Chinese government. There are currently no restrictions on Chinese national students participating in paid positions.

### **Voluntary or Community Service**

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Certain organizations encourage students to work on a volunteer basis to gain experience and to provide needed assistance to the organization. This type of arrangement is common, for example, in government and not-for-profit organizations. Such internships are valued, sometimes even required, for admission to some professional schools, but NYU Shanghai awards no credit for them.

### **Community Engagement**

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There are also for-credit courses that have community-engaged learning components, such as service learning courses. We encourage students to seek out such opportunities during their college career to further explore and connect with issues in and of the city of Shanghai and greater China.

### **Preprofessional Programs**

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#### **Pre-Medical and Health Studies Program**

It is important to understand that health-related pre-professional training does not require students to major in science or math. Students may elect to major in any discipline and complete the courses needed to apply for health-related professional schools in parallel. They should choose a disciplinary major that they will enjoy and in which they will excel. If they enjoy the sciences, choosing a major in those areas may be the right decision for them. If,

however, they have other interests or talents, they will demonstrate their versatility and increase their chances of excelling by pursuing a major in their area of interest along with completing the pre-medical and health curriculum.

NYU Shanghai, like many American colleges and universities, does not offer a pre-medical, pre-dental, or pre-health major. In fact, the best professional schools want, above all, students with a broad education who can think clearly, read critically, and write well.

Academic advisors and faculty mentors help students to explore their options, advise them about programs and appropriate course selection, and help them to present the best possible application to professional schools. Students should be aware that it is extremely difficult for applicants who are not U.S. citizens or permanent U.S. residents to gain admission to medical school in the U.S. Other health professional schools in the U.S. have more hospitable admissions policies, such as schools of dentistry and M.D./Ph.D. programs.

*The following NYU courses are equivalent to the basic set requirements most medical schools in the U.S. request. In general, most medical schools will expect applicants to have completed one year of biology, one year of physics, and two years of chemistry (through organic chemistry). However, specific medical schools may have additional requirements or modifications to those listed here. Students should carefully research the schools they are interested in for more information.*

## SUGGESTED COURSES FOR APPLICATION TO MEDICAL SCHOOL

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- Foundations of Physics I & II Honors/General Physics I & II
- FoS Physics I Laboratory & Physics II Lab
- Foundations of Chemistry I & II
- FoS Chemistry Laboratory
- Foundations of Biology I & II
- FoS Biology Laboratory
- Organic Chemistry I & II
- Organic Chemistry I & II Lab

*In addition, many schools expect students to have taken the following courses:*

- Calculus
- Statistics
- Introduction to Psychology
- A sociology course that surveys individual and social patterns of behavior and determinants of health
- 2 semesters of upper level Expository Writing courses are recommended. These courses cannot include Creative Writing and need to focus on writing or
- interpreting advanced texts.
- 1 semester of Biochemistry

## PRE-LAW PROGRAM

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Prospective law students are free to choose from the wide variety of courses offered at NYU Shanghai. NYU endorses the position of the Association of American Law Schools that a single “best” preparation for law school cannot be recommended. As a result, there is no prescribed pre-law curriculum.

### Purpose of Prelaw Study

While NYU Shanghai considers the prescription of particular courses unwise, it does advise taking courses that require extensive reading, research, and writing. The Core Curriculum is an excellent

beginning for pre-law students as it offers a rigorous and multidisciplinary foundation for advanced study in the humanities, social sciences, and natural sciences. No matter what one majors in, law schools value a well-rounded liberal arts education, so students should choose their electives wisely. For example, the precision of methodology and thought required of students in mathematics, computer science, logic, and the natural sciences will aid in the development of analytic skills, while a background in the behavioral sciences and the humanities (such as politics, economics, history, literature, philosophy, anthropology, and sociology) will offer a deeper understanding of human institutions and values, as well as opportunities for critical thinking and writing.

## Student Health Center

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The Student Health Center is available for all students and no appointment is necessary. Counseling services are free on a voluntary basis for any student enrolled in NYU Shanghai. When necessary, medication and outside referrals are available. All conversations are kept strictly confidential. Student Health Center wellness counselors provide health-related advice and assistance in workshops, as well as in group and individual counseling.

The social and emotional conflicts that occur in a person's life occasionally prevent him or her from functioning optimally. Concerns about interpersonal relationships, poor grades or other academic problems, feelings of inadequacy, anxiety, loneliness, sexual problems, eating disorders, substance abuse, and family and/or marriage conflicts are difficulties any individual might encounter. Wellness counselors provide an atmosphere where personal concerns can be examined and discussed freely and confidentially.

The Student Health Center at NYU Shanghai is committed to promoting a safe, informed, healthy and happy university community, by providing an array of professional services tailored to support our student's needs during their university life at NYU Shanghai. The Student Health Center is located on the 6th floor of the academic building and opened Monday to Friday 8:30 a.m. - 5:30 p.m. The Center is staffed by highly trained professionals who are focused on supporting the needs of students.

The Student Health Center's programs addresses the issues impacting students from a physical, emotional and health knowledge perspective and provides activities and resources that empower the students to achieve their academic potential.

The transition to adulthood and the navigation of college life presents wonderful opportunities, but can sometimes cause stress and varying emotions. We are also mindful of the great opportunities and added challenges of being a student in a mega city like Shanghai.

The Student Health Center provides medical and counseling support and promotes health knowledge through skills focused training and learning workshops in a warm and welcoming environment. All health services are confidential and offered to students free of charge. Walking-in hours and professional counseling appointments are offered to all students.

The Wellness Exchange is a 24 hour counseling hotline - all students can call for support.  
Tel: 021 2059 9999

**assistance. They should contact the Director of the Academic Resource Center, Cydney Delia (cydney.delia@nyu.edu) with any questions about registering.**

## **Students with Disabilities**

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NYU is committed to providing equal educational opportunity and participation for students with disabilities. It is NYU Shanghai's policy that no qualified student with a qualified disability be excluded from participating in any NYU Shanghai program or activity, denied the benefits of any NYU Shanghai program or activity, or otherwise subjected to discrimination with regard to any NYU Shanghai program or activity.

The Henry and Lucy Moses Center for Students with Disabilities (CSD) in New York determines qualified disability status and assists students in obtaining appropriate accommodations and services. CSD operates according to an Independent Living Philosophy and strives in its policies and practices to empower each student to become as independent as possible. Their services are designed to encourage independence, backed by a strong system of supports.

**Any student who needs a reasonable accommodation based on a qualified disability is required to register with the CSD for**

# *Degree Requirements*

NYU Shanghai confers the following degrees on candidates recommended by the faculty of the majors and approved by the trustees of New York University:

## **Bachelor of Arts (B.A.)**

- Global China Studies
- Economics
- Humanities
- Social Science

## **Bachelor of Science (B.S.)**

- Biology
- Business and Finance
- Business and Marketing
- Chemistry
- Computer Systems Engineering
- Computer Science
- Data Science
- Electrical and Systems Engineering
- Interactive Media Arts
- Interactive Media + Business
- Honors Mathematics
- Mathematics
- Neural Science
- Physics



The general degree requirements are the same for the B.A. and the B.S.

To be eligible for the bachelor's degree, students must complete 128 credits with a cumulative grade point average of at least 2.0. Within these, students must fulfill the requirements of both a major and the core curriculum.

The degree requirements to be fulfilled are those in effect during the term of the student's first registration in NYU Shanghai. Registration in another division of NYU does not constitute registration in NYU Shanghai. Students may petition to follow the graduation requirements of a later cohort but must abide by all of the graduation requirements of the later cohort and may lose requirements (but not credits) earned for courses which meet requirements for the earlier cohort but not for the later one.

Readmitted students must fulfill the requirements as listed in the Bulletin published during the year of their readmission, unless their readmission letter states otherwise.

In very exceptional cases, a student may petition the Academic Standards Committee for approval of a change in the requirements as stated in the Bulletin.

## **Conferring of Degrees**

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Degrees are conferred in September, January, and May. The NYU Shanghai graduation ceremony occurs in May and the formal conferring of degrees takes place annually at Commencement in May.

Students receive three confirmations of their graduation: a New York University diploma (issued by New York University), a NYU Shanghai diploma (issued by Shanghai New York University), and a NYU Shanghai graduation certificate (from the Ministry of Education of the PRC).

## **The Major**

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Major requirements, varying from subject to subject, are specified in the sections devoted to the course listings of individual majors. Generally, one-third to one half of the total credits are earned in the major concentration.

Every student must complete a major with a cumulative grade point average in the major of at least 2.0. At least one-half of the courses as well as one-half of the credits used to complete the major must be taken in the disciplinary area. A student may not register for courses in the major outside of NYU. The student must be approved as a major and must review his or her program with an academic advisor each term.

Course offerings are subject to the availability of faculty. Therefore, it is not possible to guarantee that any particular course listed will be offered in a particular academic year. If failure to offer a course in a student's approved minor will delay their graduation, they should consult with their advisor to consider available options.

## **Declaration**

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Students should discuss their major plans with their advisors. It is best to concentrate on completing breadth and general education requirements in the first two years since interest in majors may change as students take classes in different disciplines and changing majors after taking some of the courses may delay graduation for some students.

Students may declare a major prior to registration for the next semester if they are registered for enough credits in the current semester so that at the end of it they will have completed at least 32 credits (typically when registering for fall of their second year). They must have a final grade of C, or current semester midterm grade of B, or higher in a designated prerequisite course for that major.

Students must declare a major prior to registration for the next semester if they are registered for enough credits in the current semester so that at the end of it they will have completed 64 credits (typically registering for fall of their third year). They must have a final grade of C, or current semester midterm grade of B, or higher in a designated prerequisite course for that major.

**Time Limit**

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All requirements for a degree at NYU Shanghai must be met within a period of eight years from the date of matriculation. For students who are re-admitted to NYU Shanghai, the length of time is proportionately reduced.

**Residence Requirement**

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All coursework used to satisfy the 128-credit degree requirement must be completed in the NYU network. The courses used to complete the major or the minor must be taken in that disciplinary area.

## Prerequisite Courses for Declaring a Major

Major	Final grade of C or higher in:
Biology	Foundations of Biology I
Business and Finance	Statistics for Business and Economics
Business and Marketing	Statistics for Business and Economics
Chemistry	Foundations of Chemistry II
Computer Science	Introduction to Computer Programming OR Introduction to Computer Science
Computer Systems Engineering	Introduction to Computer Programming OR Introduction to Computer Science
Data Science	Introduction to Computer Programming OR Introduction to Computer Science + Calculus
Economics	Microeconomics
Electrical and Systems Engineering	Introduction to Computer Programming OR Introduction to Computer Science
Global China Studies	Any required Global China Studies course
Honors Mathematics	Analysis I + Honors Linear Algebra II + Cumulative GPA 3.65 or higher in all classes and in Math classes
Humanities	Global Perspective on Society
Interactive Media Arts	Interaction Lab or Communications Lab
Interactive Media and Business	Application Lab OR Interaction Lab OR Communica- tions Lab OR Principles of Financial Accounting OR Economics of Global Business
Mathematics	Multivariable Calculus
Neural Science	Foundations of Biology I
Physics	Foundations of Physics II
Social Science	Global Perspective on Society

## **Double Major**

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Students may attempt a double (second) major. The same requirements, including the maintenance of a minimum grade point average of 2.0 in the major, apply to the second major as to the first. In some cases, courses may be applicable to both majors but no more than two major courses may be approved for double counting unless special policies have been made between two particular majors that supersede this rule.

Students should consult with their advisor before attempting a double major as the requirements of the first major and the second limit the options for students to pursue varied intellectual interests. It is also difficult to complete two majors in the standard 128 credits. Requirements for completing a major as a double major are the same as detailed for the major requirements.

Core Curriculum classes do not count against double counting limits to fill major or minor requirements, but no single course may be used to meet more than two requirements.

The second major is declared the same way as the first but students do not receive priority in enrolling in second major classes before their last semester. Therefore, the ability to satisfy the requirements for an additional major cannot be guaranteed for any student and will be based upon course availability and the time that the student is willing to invest to satisfy all of the requirements of the additional major. In some cases, pursuing a double major will require a delay in graduation and/or limit study away opportunities.

## **Requirements for Minors**

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Students may minor in subjects outside of their major or disciplinary area. A minor in a secondary subject enables a student to acquire a useful understanding of concepts and analysis without the same degree of coverage as would be obtained in a major. A grade of C or better is required for a course to be counted toward a minor. If a student fails a course required for the minor, the course must be retaken at NYU; a course taken outside the University will not normally be allowed to substitute for a minor requirement. No course for the minor may be taken as pass/fail. Students may use Core Curriculum classes to fill minor requirements but at least 12 credits of the minor must be unique to

the minor, meaning that it is not double-counted with any other major, minor, or core requirement. Additionally, no single course may be used to meet more than two requirements.

## **Regulations Pertaining to both Major and Minor**

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The major and minor requirements to be followed are those stated in the major sections of the Bulletin in effect during the semester of the student's first registration in NYU Shanghai. A student may petition through their advisor to follow major graduation requirements as set out in a Bulletin from a subsequent year after their first semester of registration. If approved, they must meet those requirements as outlined in that edition of the Bulletin. Any courses they may have completed, or complete, which were required under the old major requirements but not under the new will be counted as general elective rather than major credit.

No credit toward the major or minor is granted for grades of C- or lower, although such grades will be computed into the grade point average of the major or the minor, as well as into the cumulative grade point average.

No course to be counted toward the major, core or minor may be taken on a Pass/Fail basis. (See "Pass/Fail Option" under Academic Policies in this Bulletin.)

In order to ensure that students do not have to compete for access to their required courses, registration priority is given to students who are registering for courses in their primary major. Although the university encourages the exploration of other disciplines, access to courses outside a student's primary major (including those courses that fulfill requirements for an additional major, minor, etc.) is on a space-available basis and is not guaranteed.

# { Part III }

Everything you need to know about:

- Academic Policies
- Placement Examinations, Degree Progress, and Transcripts
- Academic Standards and Discipline
- University Policies and Campus Safety
- Honors and Awards

# *Academic Policies*

- Courses
- Credits
- Examinations
- Grades
- Leaves

## Courses

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The programs and courses offered at NYU Shanghai are designed for students who attend classes offered on a full-time basis. A full-time schedule normally consists of 16 credits per term, or 32 credits per year, which enables a student to complete the entire program of 128 credits in four years. Minimal full-time status entails completing at least 12 credits per term, or 24 credits per year. Students who wish to attend part-time should obtain permission from the Office of the Assistant Provost for Academic Affairs prior to the start of the semester. Such status will be granted only when there is good and sufficient reason for part-time study. Failure to complete a minimum of 24 credits per year jeopardizes a student's full-time status and his or her eligibility to receive financial aid. Students may enroll in fewer than 12 credits in their final semester but still maintain full-time status if they are enrolled in the course(s) that they need to graduate that semester and have applied for degree conferral that term.

Students in good academic standing may register for more than 18 credits per term after their freshman year with the clearance of their academic advisor and approval of the Assistant Dean for Academic Affairs.

There are additional per credit costs for each credit above 18 as well as an additional registration fee and added costs for textbooks and materials in a given semester.

### Availability of Courses

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In order to ensure that students do not have to compete for access to their required courses, registration priority is given to students who are registering for courses in their primary major. Excess demand will not lead to creation of additional space in major elective courses or for students seeking to take a required major course earlier than the semester it is listed in the recommended course sequence.

Although the University encourages the exploration of other disciplines, access to courses outside a student's primary major (including those courses that fulfill requirements for an additional major, minor, etc.) is on a space-available basis and is not guaranteed.

## Change of Program

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To make any changes in their program, including dropping or adding courses given in other divisions of NYU, students must access Albert Student Center or file a Change Course Enrollment form available on the Registrar's Office website ([shanghai.nyu.edu/academics/regISTRATION](http://shanghai.nyu.edu/academics/regISTRATION)).

### Adding Courses

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The deadline for the adding of a course or a section is the end of the second week of the semester. The deadline applies to any course added by an NYU Shanghai student and to any NYU Shanghai course added by students from other divisions. The adding of any course or section after the end of the second week is generally allowed only when the student is changing levels within a discipline—for example, from a Chinese or mathematics course to a higher- or lower-level course in the same discipline. The changing of levels is permitted only with the written approval of both the instructor, any other relevant administrators, and the student's advisor.

### Dropping or Withdrawing From Courses

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Students are expected to maintain a full-time program as described above and are unable to reduce their program to part-time status if enrolled full-time at the beginning of the semester. Occasionally, they may drop or withdraw from a course if, because of reasons beyond their control, they cannot continue. Withdrawing from a full semester course during the first two weeks of the term is treated as a drop and will not appear on the transcript. Those courses withdrawn from during the third week through the ninth week of the term will be recorded with a grade of W. After the ninth week, no one may withdraw from a course. Students who are ill or have other serious personal circumstances should contact their advisor.

### Complete Withdrawals

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Students who wish to withdraw from all of their courses must meet and discuss their plans with their advisor, complete the required form, and get the approval of the Assistant Provost for Academic Affairs.

A student who withdraws officially from all courses in a term may register for the following term, and subject to any limitations attached to their withdrawal approval. If the student is unable to attend NYU Shanghai during the term following the withdrawal, he or she should request a leave of absence from their academic advisor. For more information, see next page under “Attendance.”

## **Auditing**

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Matriculated students in NYU Shanghai may audit (i.e., attend lectures without intending to receive credit) any course in NYU Shanghai with the consent of, and under the conditions established by, the instructor and the major. Auditors count against the enrollment cap for a course and may not preempt space required for students registering for a letter grade.

Courses cannot be audited as a means of satisfying requirements for an incomplete grade or as a means of changing a previous grade. Language classes may not be audited. Students may not audit classes during their first year of enrollment at NYU Shanghai.

Students seeking to audit a course must register as an auditor by the end of the add/drop period and audited courses will appear on the student’s official transcript. Special (nondegree) students may not audit courses. Once a course is declared as an audited course it may not be changed to a letter grade or pass/fail course. If the credit value of the audited course causes the total number of credits to exceed 18, an overload petition is required and overload charges apply.

Students that officially audit a course are expected to complete the work that is agreed upon by the instructor. There is no credit given for the course, though the course would appear on the student’s record with a mark of “R” for Registered Auditor. If the student does not comply with the stated expectations, then the instructor could issue a “F” grade and that mark would be calculated into the student’s overall GPA.

## **Attendance**

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Although the administration of NYU Shanghai does not supervise attendance of classes, it supports the standards imposed by instructors.

When students are ill, they are expected to notify professors in advance of class, if at all possible. If the instructor determines that it is an excused absence then the student should negotiate with the professor the time and place for make-up of assignments, tests and/or examinations missed. Students who are seriously ill and/or will miss more than a week of classes due to medical reasons, should contact their academic advisor and the Office of Health and Wellness for assistance in excusing their absences from class.

Students who, in the judgment of the instructor, have not substantially met the requirements of the course or who have been excessively absent are not considered to have withdrawn from the course if they remain on the roster and may be given the final grade of F.

## **Religious Holidays and Attendance**

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NYU, as a nonsectarian institution, and NYU Shanghai, as a degree-granting campus of NYU, adhere to the general policy of including in its official calendar only certain legal holidays. However, it has also long been NYU policy that members of any religious group may, without penalty, absent themselves from classes when compliance with their religious obligations requires it. In 1988, the NYU University Senate affirmed this policy and passed a resolution that elaborated on it as follows:

1. Students who anticipate being absent because of any religious observance should, whenever possible, notify faculty in advance of such anticipated absence.
2. Whenever feasible, examinations and assignment deadlines should not be scheduled on religious holidays. Any student absent from class because of religious beliefs shall not be penalized for any class, examination, or assignment deadline missed on that day or days.
3. If examinations or assignment deadlines are scheduled, any student who is unable to attend class because of religious beliefs shall be given the opportunity to make up that day or days.
4. No adverse or prejudicial effects shall result to any student who avails himself or herself of the above provisions.



## **Policy on Class Conduct**

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Students are expected to attend all scheduled classes unless the instructor explicitly informs the class that other ways of doing the work are acceptable. The action to be taken in regard to tardiness, absence from class or making up late work is the responsibility of the individual instructor; the instructor should consult with the student's academic advisor and the Assistant Dean for Academic Affairs if major action, such as dropping the student from the course, is being considered.

All classes will be held at their scheduled hour on days immediately before and after all holidays and recesses. Both faculty and students are expected to be present.

Students are permitted to be absent from classes to participate in authorized contests, conferences, and presentations, provided the following conditions are met:

- All work missed must be made up to the satisfaction of the instructor(s) concerned;
- No trip shall involve an absence of more than two days, excluding days when classes are not scheduled;
- The total number of days of absence shall not exceed six per sport or per organization annually;
- Each student will obtain an absence authorization signed by the Assistant Dean for Academic Affairs. The student will present this authorization to the instructor. This is not an excuse for work missed.

Technology affords many students access to portable devices including cell phones, PDAs, and laptops. It is expected that students will respect the wishes of faculty with regard to the use of electronic devices within the academic environment.

No student shall leave a scheduled exercise because of the absence of the instructor until a reasonable time has passed. By tradition and as a matter of courtesy, a student should wait 10 minutes before leaving.

## **Authorized Contests, Conferences, and Presentations**

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Authorized contests, conferences, and presentations are those approved by the Assistant Provost for Academic Affairs. Authorized contests are limited to athletic games and matches involving official NYU Shanghai sports teams and to students on the active team roster; and academic competitions sponsored by an NYU Shanghai Academic Dean and to students selected to represent NYU Shanghai at the competition. Authorized conferences are limited to conferences sponsored by an NYU Shanghai Academic Dean and to students selected by NYU Shanghai to attend the conference (this is in addition to any selection process that the conference might have). In some cases limited funding may be available to students selected to attend a conference. Funding is not available to attend conferences to which all qualified NYU Shanghai students did not have an opportunity to apply for selection. Academic Affairs only provides funding for academic conferences. Non-academic conferences, including those focusing on leadership, are sponsored through Student Life and do not allow students approved absences from classes. Authorized presentations are limited to those at forums sponsored by an NYU Shanghai Academic Dean and presenters to those approved by NYU Shanghai. In some cases limited funding will be available to students selected for a presentation.

## CREDIT

### Credit for Advanced Placement Examinations

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NYU Shanghai does not assign credit for the Advanced Placement (AP) Program (College Entrance Examination Board), the International Baccalaureate (IB) Program, or the results of foreign maturity certificate examinations. In some cases students may be able to fulfill a core curriculum requirement based on their performance on one of these tests.

### Credit for Courses at NYU Shanghai

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To receive credit for a course, the student must register before attending, meet the requirements for attendance, and creditably complete all examinations and assignments prescribed by the instructor. For exceptional students, some majors also offer independent study.

Students receive credit for any course passed with at least a D or a P grade. Courses may not be used to meet major or minor requirements or as prerequisites for more advanced classes unless a grade of C or higher is earned. This means that grades of P or C- and lower may not be used to meet major or minor requirements or as a prerequisite for more advanced courses.

### Restrictions on Receiving Credit (Including Course Repeat Policy)

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A student who has taken a course for credit or who has obtained a W in a course is permitted to repeat that course once. Students may not repeat more than two courses during their undergraduate careers. Students may not repeat courses in a designated sequence after taking more advanced courses. The majors determine the sequencing of courses. Students with questions regarding the repetition of courses or course sequences must consult with the particular major offering the course. When a student repeats a course, the grades from both times the student took the course will be recorded on the transcript but only the credits from the second time the course is taken will be counted. Furthermore, the two grades (from the first and second times) will be averaged in the grade point average.

For Chinese national students, a repeated course will take space in their free extra 8-credits beyond

128 total credits.

### Credit for Courses at Other Schools and Divisions of New York University

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NYU graduate courses may be taken with approval of the respective graduate program and NYU Shanghai undergraduate major and following the practices of that bulletin. Enrollment is dependent on availability and completion of any required prerequisites. If graduate courses are applied toward the completion of requirements for the baccalaureate degree, no advanced credit is typically allowed for them in the University's graduate programs.

Students may take a total of 36 credits in other divisions of NYU, including any courses for particular minors approved by NYU Shanghai. Students seeking additional credits beyond the 36 credit limit must file a petition with the Office of Academic Affairs.

Please note that restrictions apply. For details, students must check with their advisor before registering for any courses in other divisions. If a course is not approved in advance, students will not receive credit for it. If such courses are taken at schools outside NYU, the credit will not transfer to NYU Shanghai.

Credits from any courses taken in NYU's School of Professional Studies will not be counted toward major requirements, the GPA, or the minimum 128 credits required for graduation.

Credit for Internet and online courses [from other divisions or schools of NYU] will not be counted toward the baccalaureate degree.

### Credit for Transfer Students

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NYU Shanghai does not presently accept transfer applicants.

### Credit for Non-NYU Study Abroad

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Students may not be registered at another university at the same time that they are registered in NYU Shanghai. Once admitted to NYU Shanghai, students must take all courses on campus or during an approved study abroad semester at one of NYU's degree-granting campuses, Global

Academic Centers or exchange partners, including those they need or wish to take during the summer. Exceptions are granted only rarely and only for good academic reasons. Requests for a waiver should be made by submitting a petition to the NYU Shanghai Academic Standards Committee.

### **Summer Session**

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Students who elect to take summer courses for credits must take them on campus or at one of NYU's Global Academic Centers, NYU New York, or NYU Abu Dhabi. Students who plan to take summer courses within the NYU Global Network need to get their course plan approved by their academic advisor for summer registration clearance before the appointed time.

## EXAMINATIONS AND GRADES

### Policies on Examinations

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#### *Preamble*

The following policies represent an understanding between faculty and student concerning an important but often stressful period, especially at the conclusion of each academic semester and at mid-semester. There should be no expectation that the following points will cover every conceivable situation. The student should anticipate the demands of the exam schedule, plan accordingly and early, and be prepared. The faculty should recognize that the student is encumbered with many tightly orchestrated and intensive obligations during this period over which he or she has no control: expectations should be reasonably consistent with the number of course units and, of course, should be made known to the student well in advance of the final examination period, preferably as part of the course syllabus.

In order to help students plan their time and study optimally for examinations, this document lays out in some detail the policies regarding final and in-term examinations. Instructors are requested to provide notification of the major in-term examinations in the course syllabus. The final examination date is posted early in the semester. It is the responsibility of the student to give his or her instructor sufficient notice and to work with the instructor to reschedule examinations if this is needed.

#### *Definitions*

- NYU Shanghai's official final examination period begins on the reading day immediately following the last day of classes and continues through the last day of scheduled final examinations, with the exception of reading day(s).
- Scheduled final examinations are those scheduled by the Registrar. An instructor may choose not to fix a schedule for final examination, but instead allow each student to choose the examination time; such exams are called self-scheduled examinations.
- Final examinations can either be comprehensive, covering all course materials, or non-comprehensive, covering only a part of the course.

- Major examinations during the semester are referred to here as in-term examinations..

### In-term Examinations

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In-term exams may only occur during regularly scheduled class hours. This means that exams may not run longer than the regular class period for the course and that instructors may not schedule alternative exam times. It is possible to administer an exam that takes longer than scheduled class times if the instructor divides the test into two parts and students take them over different class dates.

The only exception to the in-term testing policy is for students with registered academic accommodations that cause them to need additional time for tests.

### Final Examinations

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1. All scheduled final examinations are held at the end of the semester during NYU Shanghai's official final examination period. The last day of a class is not normally used for a final examination. Comprehensive final examinations are not required for each course, but are given at the option of the instructor. The reading day and weekend preceding the examination days are not used for examination purposes of any kind, unless a student chooses (and the instructor agrees) to take a self-scheduled examination during this time. Non-comprehensive final examinations or final projects (but not both) are allowed during this final examination period only in courses that do not give a final comprehensive examination.
2. Instructors return all work assigned no later than the last regular day of classes in courses for which there is a final examination. In cases when this is not possible, an answer key, solution sets or equivalent feedback should be provided unless the final examination will not cover material in work that has not been returned.
3. No other coursework, including laboratory or studio work, will be due during the final examination period unless it is assigned in advance and in lieu of the course's final examination. Regardless of whether there is a final examination in the course, no classes other than review sessions are held during the final examination period. Review

sessions are scheduled for optimal attendance, and a serious effort should be made to accommodate students who cannot attend. In appreciation of the time required to prepare for final examinations, no other examinations, portfolio reviews, critiques or juries shall be scheduled for the last class day of a course with a final examination.

4. Instructors do not exert or submit to pressures to move an examination so that students can leave earlier nor pressure students to take an examination on a reading day or weekend preceding the final examinations period.
5. No student is required to take more than two scheduled final examinations during a 25-hour period. A student who has more than two final examinations scheduled during a 25-hour period or has two final examinations scheduled at the same time should first contact the instructors of the courses for assistance in resolving conflicts. If the problem cannot be resolved by that means, the student should contact the Assistant Dean for Academic Affairs.
6. Students are expected to present themselves at the place assigned at the start of the examination; late arrival will reduce the total time a student has to complete the examination, unless the instructor's course policy indicates otherwise. Instructors reserve the right to require attendance within a specific time period. Students who miss an examination with a reasonable excuse and wish to petition for a make-up final examination should check with the instructor.
7. Any student may review his or her corrected, graded final examination in the presence of an instructor or a teaching assistant. Any controversy arising from this review is dealt with in accordance with NYU Shanghai procedure for the appeal of grades and academic actions. A final examination that is not returned to a student will be kept available until the end of the next semester for review. In the event that the instructor or teaching assistant is not available for the review, the responsibility shall rest with the major leader of the instructor offering the course or his or her designee. Since instructors return all work assigned before the final examinations, they are not responsible for retaining unclaimed coursework.
8. Concerns related to a final examination, complaints about violations of the final examination policy or alterations of the final

examination schedule should be directed to the Assistant Dean for Academic Affairs.

## **NYU Shanghai Student Guidelines for Taking Exams**

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NYU Shanghai has developed the guidelines below for in-class tests worth 10% or more of the final grade in a class so that students will share a uniform test-taking experience that creates a quiet, less stressful, and fair test site.

1. Tests that are worth more than 10% of the final grade will be held in a room or rooms that provide at least twice as many seats as students enrolled in the class.
2. Students follow an assigned seating chart for the test that randomizes the classroom and seating assignments for students. Students are seated in every other seat so that they are not in close proximity to others taking the same exam.
3. The tests are pre-marked with each student's name and assigned seat.
4. Students should arrive at the classroom at least 5 minutes before the exam starts.
5. Students must leave their backpacks/purses/bags/laptops at the front of the room – taking with them to their seat only something to write with (no pencil cases are allowed). If other materials are permitted, the instructor will inform the proctors of specifically what is allowed.
6. Students must leave all hats, coats, and jackets at the front of the room as well. Students who normally wear scarfs for faith or cultural reasons may do so but must alter to expose ears.
7. An unlabeled bottle of water is permissible; food/gum/candy is not.
8. Any student who is NOT taking the exam should not be in the test room.
9. Proctors are not responsible for supplying any test-taking materials (pencils, calculators, etc.) to students who have arrived unprepared for the exam.
10. All mobile phones should be switched off and left at the front of the room, so that students do not have access to them during the exam. If a student is found with their mobile phone with them during the exam, this will be considered a violation of the

exam guidelines.

11. A quiet test environment must be maintained. Students are not allowed to speak to each other (even to request to borrow a pencil from another student). If students need to speak, they should raise their hand and wait for the proctor to come over to them and help them with whatever question or problem they have.
12. The start time and finish time will be written on the board at the front of the room. The proctor should update the time remaining (in 15 minutes intervals) throughout the exam on the board so that students may gauge their progress and manage their time during the exam.
13. Any student arriving late will be permitted to take the exam, but they must finish at the pre-arranged time and will not be given any extra time.
14. Students must sit in their assigned seat with their named test. They have to show a proctor their NYU Shanghai University ID if asked.
15. Students in the wrong test room must go to the correct test room even if that means they start the test late.
16. Students cannot move their seat. There needs to be enough space between seats so that the purpose of the every other seat protocol is met.
17. Bathroom breaks are permitted only in what the proctor deems is an emergency. When permitted, the back-up/relief proctor will escort the student to and from the bathroom. When this is not possible, the proctor will note the time that the student left the exam room, and when they returned.
18. If a student finishes an exam early, they may leave the room once they have turned in their exam papers. They will not be readmitted once this occurs.
19. In the last 15 minutes of the exam, the remaining time left will be updated in 5 minute intervals.
20. Once time is up, the exam is finished and students must stop working. The proctor will make a note of individuals who did not stop working

when told to and report this to the instructor.

21. All exam materials (answer sheets, scratch paper, test question paper) are to be collected by the proctor. Students should not leave the room with any test materials.

#### Penalties for Students Violating the Protocols

- The penalty for the first violation of test protocols (sitting in wrong seat, in possession of non-approved test taking materials, talking, failure to show their NYU Shanghai University ID when requested, etc.) is a letter grade reduction on exam.
- Additional violations or refusal to comply with protocols will lead to additional penalties.
- Test protocol penalties are independent of, and in addition to, penalties for academic integrity violations. Both types of penalties are applied in as confidential a manner as circumstances permit.

## Makeup Examinations

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When final examinations are missed because of illness, a doctor's note must be presented to the Health & Wellness Center, which can verify the medical situation and inform the instructor. The student must submit a request to the instructor to receive a grade of Incomplete. It is up to the instructor and Academic Affairs to decide if a request for a grade of Incomplete will be granted. The time and place of any makeup examinations are set by the instructor or the major leader.

Incomplete grades received because of a missed final examination must be replaced with a letter grade within the semester following the one in which the Incomplete was received. In the case of students who are out of attendance, such grades must be replaced within one year after the end of the course concerned. An Incomplete is a temporary grade; if it is not replaced within the time limit by a grade submitted by the course instructor it becomes an F or the default grade indicated by the instructor, and is computed in the grade point average. (Regarding the removal of Incompletes received for missed work other than final examinations, see next page under "Grades" and "Incompletes.")

## Grades

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Students may obtain their final grades for each semester on Albert.

The following symbols indicating grades are used: A, B, C, D, P, F, and W. The following symbol indicates incomplete work: I. Only grades of A, B, C, D, or F earned in any NYU course while matriculated in NYU Shanghai, or earned in any of NYU Shanghai's courses (courses suffixed by "-SH") while matriculated in another division of NYU, are computed in the average. The following grades may be awarded: A, A-, B+, B, B-, C+, C, C-, D+, D, F. In general, A indicates excellent work, B indicates good work, C indicates satisfactory work, and D indicates passable work and is the lowest passing grade. F indicates failure. The weights assigned in computing the grade point average are as follows:

A	4.0
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3
C	2.0
C-	1.7
D+	1.3
D	1.0
F	0.0

## Computing the Grade Point Average

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The grade point average can be obtained by determining the total of all grade points earned (quality points) and dividing that figure by the total number of credit hours completed (quality hours). For example: A student who has completed 8 points of A (4.0), 4 points of B (3.0), and 4 points of C (2.0) has a grade point average of 3.25. This is obtained by adding  $8 \text{ (points of A)} \times 4.0 \text{ (point value of A)}$ ,  $4 \text{ (points of B)} \times 3.0 \text{ (point value of B)}$ , and  $4 \text{ (points of C)} \times 2.0 \text{ (point value of C)}$ , which totals 52 (the total of all grade points earned), and then by dividing 52 by 16 (the total number of credit hours completed). This gives the grade point average of 3.25.

## Policies on Assigned Grades

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Once a final grade has been submitted by the instructor and recorded on the transcript, the final grade cannot be changed by turning in additional coursework.



To appeal an assigned grade (only final semester grades are assigned grades, midterm and individual assignment and paper grades are not appealable) the student should first consult with the instructor who assigned the grade to discuss the grading requirements for the course and how the grade was determined. If the student is not satisfied with the outcome of the discussion and wishes to appeal the grade further, a formal written appeal should be submitted to the Assistant Dean for Academic Affairs within one month of the date the grade was posted. An independent review of the grade will be undertaken. All of the student's work will be eligible for review to clarify how the grade was determined and to ensure the grade is consistent with academic guidelines and policies. The result of the appeal may be that the grade is lowered, raised, or stays the same. The decision of the Assistant Provost for Academic Affairs in matters related to a course grade is final.

In the case of a course that has been repeated, both grades are recorded on the transcript and averaged together to be computed in the grade point average.

The grades for courses taken abroad in one of NYU's programs or at one of the exchange sites are recorded on the transcript and are also included in the grade point average. The grades for graduate courses taken at other divisions in the University are included in the grade point average, provided that permission to enroll is obtained prior to registration for the courses.

Not included in the undergraduate grade point average are grades for work done at institutions outside NYU's global network.

## **Grade of P**

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The grade of P (Pass) indicates a passing grade (A, B, C, or D) in a course taken under the pass/fail option. It is also used to indicate non-graded courses. The grade of P is not computed in the average. The grade of F under the pass/fail option is computed in the average. For more information and procedures to obtain the pass/fail option, see end of this section under "Pass/Fail Option."

## **Grade of W**

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The grade of W indicates an official withdrawal of the student from a course in good academic standing. Please see "Change of Program" and "Withdrawing from Courses" for information on the regulations and procedures for withdrawing officially from courses.

## **Grade of I**

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The grade of I (Incomplete) is a temporary grade that indicates that the student has, for good reason, completed all but a single requirement or a small amount of the course work, and that there is the possibility that the student will eventually pass the course when all of the requirements have been completed. A student must ask the instructor for a grade of I, present documented evidence of illness or the equivalent, clarify the remaining course requirements with the instructor, and receive approval from the Assistant Dean for Academic Affairs.

The Incomplete grade is not awarded automatically. It is not used when there is no possibility that the student will eventually pass the course. If the course work is not completed and a grade submitted by the course instructor before the statutory time for making up incompletes has elapsed, the temporary grade of I becomes an F or the default grade indicated by the instructor and is computed in the student's grade point average.

## **Incompletes**

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All work missed in the fall term or in a January term session must be made up by the end of the following spring term. All work missed in the spring term or in a summer session must be made up by the end of the following fall term. Students who are on a leave of absence in the semester following the one in which the course was taken have one year to complete the work. Students should contact their advisor for an Extension of Incomplete Form, which must be approved by the instructor. Extensions of these time limits are rarely granted.

NYU Shanghai follows the Office of Global Programs policy regarding incomplete grades and study away admission. Incomplete (I) grades on students' transcript must be resolved before an admissions decision for study away can be made.

## Independent Study

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Some majors offer independent study courses for students with exceptional qualifications. In these courses, the work is planned specifically for each student. Independent studies should build on previous course work, not replace existing courses, and may not substitute for major core requirements. With prior approval they may count for general elective, minor, or major elective requirements.

Independent study courses allow the student to work independently with faculty supervision and counsel. The courses typically carry variable credit of 2 or 4 credits each term. They are normally limited to upper-class majors but may be open to other well-qualified upper-class students. To register for an independent study, a student must have written approval of all relevant faculty and the Assistant Provost for Academic Affairs.

The result of the independent study course should be a paper or other objective, tangible evidence of completion of the work. In general, students are not permitted to take more than 12 credits of independent study during their four years, and no more than 8 credits may be taken in any one major. More specific information can be found by speaking with your academic advisor.

## Pass/Fail Option

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Students may elect one pass/fail option each term, including the summer sessions, for a total of not more than 32 credits during their college career. The choice must be made before the completion of the 9th week of the term (fourth week of a six-week summer session); after that time, the decision cannot be initiated or changed. No grade other than P or F will be recorded for those students choosing this option. P includes the grades of A, B, C, and D and is not counted in the grade point average. F is counted in the grade point average.

The pass/fail option is not acceptable in the major, the minor, or any of the courses taken in fulfillment of the Core Curriculum requirements. Students considering the pass/fail option in their area of study or in required preprofessional courses should consult with their advisor about the effect of such grades on admission to graduate and professional schools. Students who change their majors may

not be able to use courses taken under the pass/fail option to satisfy the requirements of their new majors. The form for declaring the pass/fail option may be obtained from the Registrar's website.

Please note that language courses cannot be taken P/F.

## Petitions

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The NYU Shanghai Academic Standards Committee will consider petitions of students to waive graduation requirements or modify academic policies and regulations of NYU Shanghai. Students should be aware that only very exceptional cases, supported by valid and documented reasons, will be considered. After deliberation, the Committee's decisions on such matters are final. Petition instructions may be obtained from the Office of Academic Advising.

## LEAVE OF ABSENCE

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NYU Shanghai expects its students to maintain continuous registration in an academic program with the exception of summer breaks. However, it is sometimes necessary or desirable for a student to take a leave from enrollment for a period of time. Such leaves may be voluntary or involuntary, and will be handled in accordance with the NYU-wide Student Leave Policy and Procedure (<http://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/student-leave-policy.html>). As it applies to NYU Shanghai, the "Dean of the School" refers to the NYU Shanghai Dean of Students and the "Provost" refers to the NYU Shanghai Assistant Provost for Academic Affairs. Questions about references to specific offices within this policy should be referred to the NYU Shanghai Dean of Students. The paragraphs below briefly summarize the NYU Policy, but individuals considering a leave are encouraged to review the full NYU policy referenced above before making any final decisions.

NYU Shanghai students are expected to absent themselves from campus during their leave of absence. They may not audit classes, hold a campus job, participate with a student club or organization, attend campus events, or live in NYU housing.

Students on leave may only visit campus for scheduled appointments with NYU Shanghai faculty or staff. Students on leave may not enroll in courses until they are approved to return.

### **Voluntary Leave**

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NYU recognizes that situations may arise when a student may want to voluntarily interrupt his or her academic studies. The University is committed to handling reasonable requests for leaves in a responsible manner. This policy may not be used in lieu of disciplinary action to address any violations of University rules, regulations, policies, or practices. A student who is granted a voluntary leave while on academic and/or disciplinary status will return to that same status.

### **Involuntary Leave**

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NYU may place a student on an involuntary leave of absence from that student's academic program when that student: (1) poses a direct threat to health and safety of self or others; and (2) is not able or not willing to take a voluntary leave of absence. This policy may not be used in lieu of disciplinary actions to address any violations of University rules, regulations, policies, or practices. A student who is placed on an involuntary leave while on academic and/or disciplinary status will return to that same status.

### **Returning from a Leave of Absence**

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Students returning from a leave of absence are expected to successfully complete one academic semester (Fall or Spring) of full-time coursework in Shanghai before being eligible to enroll in a study away program.

*Placement  
Examinations,  
Degree Progress and  
Transcripts*

## Placement Examination for Chinese Language

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### *Testing and Placement*

Entering students who are not native speakers of Mandarin take an online placement exam prior to their first registration in NYU Shanghai. Tests can result either in an exemption from the Chinese-language requirement or in placement into the appropriate-level course. Placement into a lower-level course means that the student must continue his or her studies of Chinese until successful completion of the intermediate two level of Chinese or demonstrate equivalent competency through a placement exam. In some cases, adjustments in placement may be made during the first weeks of class under advice and/or consent of instructors. Information on placement testing can be obtained from the Office of Academic Advising.

The CAS online placement exam is used for new coming students only to assess their language proficiency for a preliminary placement into Chinese language courses.

If a student has taken Chinese language courses at NYU (Shanghai, New York, Abu Dhabi and London) at any level before and wishes to be placed out of the next level (including to fulfill the language requirement), he/she needs to apply for an in-person placement exam with the Chinese Language Program. Student can only be placed out of one level at a time. Please reach to shanghai.chinese.program@nyu.edu to request. The in-person placement exam is usually held at the beginning of each semester.

## Placement Process for Writing as Inquiry

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Entering students who did not speak English in the home or attend K-12 schools where English was the primary language of instruction will be evaluated for placement in two different first-year writing course levels. Student standardized test scores, Candidate Weekend scores, and a writing sample may be considered as part of the evaluation. In some cases, adjustments in placement may be made during the first weeks of class. Information on placement testing will be communicated to matriculating students by their advisors.

## Quantitative Reasoning

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A student who wishes to place out of the Core Curriculum Mathematics requirement or to place into a higher level math class will have the opportunity to take a math placement exam, usually held at the beginning of each semester.

## Degree Progress

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All students have access to their Degree Progress Report, as generated by the Office of the NYU University Registrar, on Albert, NYU's online registration and information system. The Degree Progress Report is a Student Information System (SIS) accounting of completed and remaining degree requirements.

## Transcripts of Record

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Unofficial transcripts are available on Albert.

A stamped and sealed NYU Shanghai official paper transcript should be requested from the NYU Shanghai Office of the Registrar by either physically visiting the office in the Pudong Academic Campus Building, Suite 1049, or sending an email from your NYU email account to shanghai.registrar@nyu.edu. Alternatively, students can request an official electronic transcript from the Albert Student Center. The "Request official transcript" link can be found under the "My Academics" section of Albert Student Center. Transcripts cannot be produced for anyone whose record has been put on hold for an outstanding University obligation. See the NYU Shanghai Registration website for further information on transcript requests.

## Rank in Class

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**NYU Shanghai neither records nor reports students' class, college, or department rank. In an institution where students' educational experiences are so varied, class rank is not a meaningful way to measure achievement. An explanatory note to that effect is attached to the official transcript.**

## Requesting Enrollment Verification

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Students can request an official paper Enrollment Verification from the NYU Shanghai Office of the

Registrar by either 1) physically visiting the office in the Pudong Academic Campus Building, Suite 1049; 2) sending an email from their NYU email account to [shanghai.registrar@nyu.edu](mailto:shanghai.registrar@nyu.edu); or 3) mailing their request to the following address:

Office of the Registrar  
NYU Shanghai  
Suite 1049, 1555 Century Avenue  
Pudong New Area  
Shanghai, China 200122

The following should be included in the request letter:

1. University ID Number
2. Current Name and any name under which you attended NYU
3. Current Address
4. Date of Birth
5. School of the University attended
6. Dates of Attendance
7. Date of (Anticipated) Graduation
8. Full Name & Address of the person or institution to which the enrollment verification is to be sent

Seven business days should be allowed for processing from the time the Office of the Registrar is in receipt of a student's request.

For confirmation of a student's request, students should contact the Office of the Registrar at +86-21 2059 5750.

### ***Special Handling***

If a request requires special handling, students must request a paper Enrollment Verification from the NYU Shanghai Office of the Registrar. Specific special handling instructions should be sent in writing by contacting [shanghai.registrar@nyu.edu](mailto:shanghai.registrar@nyu.edu). Special handling includes:

1. Sending paper Enrollment Verification to the student in separate sealed envelopes addressed to admissions offices of other universities.
2. Sending paper Enrollment Verification with additional documents to be sent along with the NYU Shanghai Enrollment Verification. Additional documents can be sent to the Office of the Registrar via mail or email, or may be hand-delivered.

3. Specific requirements as part of the enrollment verification request (e.g. need passport number, dates outside of China, and countries being visited for visa purposes, etc.)
4. Requesting Enrollment Verification in Chinese/Bilingual form.
5. DHL Express Delivery: The Office of the Registrar can assist students that are not on campus to deliver the paper Enrollment Verification via express mail. The international express mail service provider used by the NYU Shanghai Registrar's Office is DHL. Please note that requesting documents to be sent via DHL does not guarantee the processing time. All requests are processed in the order in which the requests are received.
  - For express delivery, send the request to [shanghai.registrar@nyu.edu](mailto:shanghai.registrar@nyu.edu) with detailed contact information of receiver(s) (i.e. name of school/institute/company, address, post code, contact person, telephone number).

Note that all express-related expenses incurred shall be borne by the student requester.

### **Arrears Policy**

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NYU Shanghai reserves the right to deny registration and withhold all information regarding the record of any student who is in arrears in the payment of tuition, fees, loans, or other charges (including charges for housing, dining, or other activities or services) for as long as any arrears remain.

### **Diploma Arrears Policy**

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Diplomas of students in arrears will be held until their financial obligations to NYU Shanghai are fulfilled and they have been cleared by the Bursar. Graduates with a diploma hold may contact the Office of the Bursar to clear arrears or to discuss their financial status at NYU Shanghai.

## **Diploma Application**

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Students may officially graduate in September, January, or May. NYU Shanghai holds a baccalaureate ceremony in May. Students must apply for graduation on Albert, and they must be enrolled for either course work, leave of absence, or maintenance of matriculation during their final semester.

To graduate in a specific semester, students must apply for graduation within the application deadline period indicated by the Office of the Registrar. It is recommended that students apply for graduation no later than the beginning of the semester in which they plan to complete all program requirements. Students who do not successfully complete all academic requirements by the end of that semester must reapply for graduation for the following cycle.

# *Academic Standards and Discipline*

The Academic Standards & Discipline policies of NYU Shanghai are summarized here. Unless otherwise noted, students should direct all questions or concerns regarding these policies to their Academic Advisor, who will liaise with the appropriate members of the university administration as needed.



## Academic Standards

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The NYU Shanghai Academic Standards Committee reviews student records throughout the academic year. All of its actions are based on the grades to date at the end of the term.

## Academic Warning

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Students with cumulative grade point averages of 2.0 to 2.25 will receive an academic warning letter with recommendations for achieving an appropriate standard for academic performance. Students who are on academic warning are invited and encouraged to participate in the Academic Support Program to support them in improving their GPA.

## Academic Probation

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Any student whose record is deemed unsatisfactory will be placed on academic probation and will be so informed by letter. A record will be deemed unsatisfactory if, in any semester, the cumulative or semester grade point average falls below 2.0 or if it fails to show steady and substantial progress toward the degree. Steady and substantial progress toward the degree entails the completion, with satisfactory grades, of more than half of the courses (and credits) for which a student registers in any semester. In addition, it entails satisfactory progress in the student's major.

Failure to satisfy the conditions of probation will result in further academic sanctions and possibly dismissal from NYU Shanghai. The conditions usually require that the student (a) achieve a grade point average of at least 2.0 during the term he or she is on probation, (b) not receive any grade below a C or any grade of I or P, and (c) not withdraw from any course without securing the permission of the NYU Shanghai Academic Standards Committee prior to the withdrawal. Students on academic probation are also required to have a special probation interview with their advisor to receive registration clearance for the next semester. More specific requirements may be imposed.

Students on academic probation may engage in

co-curricular activities but may not hold office in these clubs or organizations without the approval of the NYU Shanghai Academic Standards Committee.

NYU Shanghai follows the Office of Global Programs policy regarding academic probation and study away admission. Students currently on academic probation are ineligible for study away. Students who are on probation must petition the Academic Standards Committee to support their study away application. If supported by the Academic Standards Committee, the final admissions decision will be made by the university's Office of Global Programs.

Students on academic probation should be aware that they are usually ineligible for financial aid.

Students who are on academic probation are required to participate in the Academic Support Program.

## Suspension

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If a student fails to meet the minimal standards stated above at the end of the probation semester, the school will suspend them. Suspension is for a minimum of two semesters (Fall/Spring or Spring/Fall) and the student is required to follow NYU Shanghai procedures for departing from campus.

Suspended students may not:

- register for courses
- attend classes
- live in residence halls
- use campus facilities, such as athletic facilities, the library, and computer labs (and including all NYU facilities in other cities as well)
- participate in student activities
- be members of student organizations
- have student jobs

(Note: Students on academic suspension may appeal to complete a summer course or hold a summer campus job if they started the class or job before they were suspended.

At the end of the two semesters, the student may petition to return to NYU Shanghai by completing

the following steps:

1. Ask the Assistant Provost for Academic Affairs in writing for permission to resume their studies.
2. Provide transcripts for any courses taken at other colleges or universities during the suspension even though academic credits earned during a suspension do not transfer back to NYU Shanghai.

To get approval to resume their studies the student must demonstrate that they are better prepared to perform above the minimum standards for graduation than before they were suspended. Students return from suspension on probation. They may only resume studies during a fall or spring semester and must study in Shanghai.

### **Academic Dismissal**

A student who fails to meet minimum standards at any point after returning from a suspension is subject to a dismissal action. A dismissal action is a permanent severance; the student is required to follow NYU Shanghai procedures for departing from campus and may not enroll again in the future.

The typical progression of academic actions is Probation, Suspension, and then Dismissal but the intent of the academic actions are to take measures that are in the student's best interest and therefore the school may bypass one or more of these steps in an unusual case.

Students suspended or dismissed from NYU Shanghai for failing to meet academic performance standards will be informed via e-mail two to three weeks after their most recent grades are posted for the enrolled semester. Students who have paid tuition for the next term at the time of dismissal will receive a full refund of those tuition and fees.

### **ACADEMIC INTEGRITY**

This policy sets forth core principles and standards with respect to academic integrity for students at NYU Shanghai.

NYU Shanghai is a "community of the mind." Its students, faculty, and staff all share the goal of pursuing truth through free and open inquiry, and we support one another's endeavors in this regard. As in any community, membership comes with certain rights and responsibilities. Foremost among these is academic integrity. Cheating on an exam, falsifying data, or having someone else write a paper undermines others who are "doing it on their own"; it makes it difficult or impossible to assess fairly a student's interest, aptitude, and achievement; and it diminishes the cheater, depriving him or her of an education. Most important, academic dishonesty is a violation of the very principles upon which the academy is founded. For this reason, violations of these principles are treated with the utmost seriousness.

At NYU Shanghai, a commitment to excellence, fairness, honesty, and respect within and outside the classroom is essential to maintaining the integrity of our community. By accepting membership in this community, students take responsibility for demonstrating these values in their own conduct and for recognizing and supporting these values in others. In turn, these values will create a campus climate that encourages the free exchange of ideas, promotes scholarly excellence through active and creative thought, and allows community members to achieve and be recognized for achieving their highest potential.

In pursuing these goals, NYU Shanghai expects and requires its students to adhere to the highest standards of scholarship, research and academic conduct. Essential to the process of teaching and learning is the periodic assessment of students' academic progress through measures such as papers, examinations, presentations, and other projects. Academic dishonesty compromises the validity of these assessments as well as the relationship of trust within the community. Students who engage in such behavior will be subject to review and the possible imposition of penalties in accordance with the standards, practices, and procedures of NYU and its colleges and schools. Violations may result in failure on a particular assignment, failure in a course, suspension or expulsion from NYU Shanghai, or other penalties.

Faculty are expected to guide students in understanding other people's ideas, in developing and clarifying their own thinking, and in using

and conscientiously acknowledging resources - an increasingly complex endeavor given the current environment of widely available and continually emerging electronic resources. In addition, students come to NYU Shanghai from diverse educational contexts and may have understandings regarding academic expectations that differ from those at NYU Shanghai. NYU values and respects all academic traditions; however, while at NYU Shanghai, students are expected to adhere to the norms and standards of academic integrity espoused by the NYU Shanghai community and will be assessed in accordance with these standards. Students should ask their professors for guidance regarding these standards as well as style guide preferences for citation of sources for assignments in their courses.

Following are examples of behaviors that compromise the academic and intellectual community of NYU Shanghai and that are unacceptable.

1. Plagiarism: presenting others' work without adequate acknowledgement of its source, as though it were one's own. Plagiarism is a form of fraud. We all stand on the shoulders of others, and we must give credit to the creators of the works that we incorporate into products that we call our own. Some examples of plagiarism:
  - a sequence of words incorporated without quotation marks
  - an unacknowledged passage paraphrased from another's work
  - the use of ideas, sound recordings, computer data or images created by others as though it were one's own
2. Cheating: deceiving a faculty member or other individual who assess student performance into believing that one's mastery of a subject or discipline is greater than it is by a range of dishonest methods, including but not limited to:
  - bringing or accessing unauthorized materials during an examination (e.g., notes, books, or other information accessed via phones, computers, other technology or any other means)
  - providing assistance to acts of academic misconduct/dishonesty (e.g., sharing copies of exams via phones, computers, other technology or any other means; allowing others to copy answers on an exam)
3. Any behavior that violates the academic policies set forth by NYU Shanghai.
  - submitting the same or substantially similar work in multiple courses, either in the same semester or in a different semester, without the express approval of all instructors
  - submitting work (papers, homework assignments, computer programs, experimental results, artwork, etc.) that was created by another, substantially or in whole, as one's own
  - submitting answers on an exam that were obtained from the work of another person or providing answers or assistance to others during an exam when not explicitly permitted by the instructor
  - submitting evaluations of group members' work for an assigned group project which misrepresent the work that was performed by another group member
  - altering or forging academic documents, including but not limited to admissions materials, academic records, grade reports, add/drop forms, course registration forms, etc.

## **NYU Shanghai Honor Code (adopted from the CAS Honor Code)**

As a student in NYU Shanghai, you belong to a community of scholars who value free and open inquiry. Honest assessment of ideas and their sources is the foundation of what we do.

NYU Shanghai is a community of mutual trust and respect in which personal prejudice has no part in the critical evaluation of ideas. It is a place where differences of opinion can be subjected to deliberate and reasonable examination without animus.

*As scholars, it is therefore as a matter of honor and good repute that we each commit ourselves to assuring the integrity of our academic community and of the educational pursuits we undertake together.*

*As a student in NYU Shanghai, I pledge that:*

- I will perform honestly all my academic obligations. I will not represent the words, works, or ideas of others as my own; will not cheat; and will not seek to mislead faculty or other academic officers in their evaluation of my course work or in any other academic affairs.
- I will behave with decorum and civility, and with respectful regard for all members of the University—faculty, staff, and fellow students—our guests, and members of our wider communities.
- I will abide by NYU Shanghai and by NYU rules of conduct and policies on academic integrity and by the special requirements of any individual course of study or other academic activity.
- I will endeavor earnestly to uphold the values, standards, and ideals on which our university community depends and call on others to do so.

### **Procedures and Sanctions**

The penalty for academic dishonesty is severe. The following are the procedures followed at NYU Shanghai:

1. If a student cheats on an examination or in laboratory work or engages in plagiarism, appropriate disciplinary action should be taken. The following actions may be taken:
  - a. The faculty member, with the approval of the Assistant Dean for Academic Affairs, may reduce the student's grade
2. In all cases of either (a) or (b), the Assistant Dean for Academic Affairs will inform the student of any action in writing and send a copy of this letter to the Assistant Provost for Academic Affairs. The letter will include the nature of the offense, the penalty, and the right of the student to appeal such penalty. A copy of the letter will be kept in a confidential file and not in the student's major file. The Assistant Provost for Academic Affairs' office copy will also be kept in a confidential file. (The faculty member and/or the Assistant Dean for Academic Affairs will meet with the student and discuss the nature of the offense and the action taken.)
3. For cases involving a second offense, the Assistant Provost for Academic Affairs will determine if a mediated outcome is possible or proceed as follows:
  - a. Convene a five-member ad hoc committee of three faculty members, one staff member, and one student to examine the evidence. This ad hoc committee will consider if there are reasonable grounds to believe that an academic integrity violation has occurred and if so, will affirm the penalty. If the committee affirms the penalty, the Assistant Provost will send the student by e-mail a penalty letter. The letter will advise the student of his or her right to appeal. The student will have two business days from the letter's delivery to request an appeal. The penalty will ordinarily be stayed during the pendency of appeal.
  - b. If the committee does not affirm the penalty, the report will be kept on file for a one-year period.
4. The student in all cases has the right to appeal to the Assistant Provost for Academic Affairs.

or give the student an F in the course.

- b. If after lowering the grade or assigning an "F", the faculty member or the Assistant Dean for Academic Affairs believes a more severe penalty (i.e., probation, suspension, or expulsion) is warranted, they can refer the case to the Assistant Provost for Academic Affairs for further action.

## Community Standards

Academic communities exist to facilitate the process of acquiring and exchanging knowledge and understanding, to enhance the personal and intellectual development of its members, and to advance the interests of society. In order to realize its purpose, the University and its members must be free from personal injury or harm; bias or harassment; intimidation or coercion; damage or loss of property; disruption of educational and social activities; unreasonable interference with the exchange of concepts and ideas; and unreasonable interference with the administrative and supporting services offered by the University. Accordingly, all student members of the University community are expected to conduct themselves in a manner that demonstrates mutual respect for the rights and personal/academic well-being of others, preserves the integrity of the social and academic environment, upholds the core values of the institution and supports the mission of the University. The University has an inherent right to address behavior that impedes, obstructs, or threatens the maintenance of order and attainment of the aforementioned goals by violating the standards of conduct set forth in the NYU Shanghai Student Conduct Policies and the Academic Standards set forth in this bulletin as well as other policies that may be established by the respective NYU Schools, Global Sites, and administrative offices of the University. Students are expected to familiarize themselves and comply with all University policies; the NYU Shanghai Student Conduct Policies and Process are available at <https://shanghai.nyu.edu/campuslife/community-standards/>.

# *University Policies*

- Privacy of Student Records
- Computing and Information Resources Code of Ethics
- Emergency Temporary Closing of the University
- Freedom of Expression
- Human Subjects in Research at NYU Shanghai

## A. Privacy of Student Records

NYU Shanghai is fully committed to the protection of the privacy of student records. To assist with the guarding of this privacy, NYU Shanghai complies with the U. S. Family Educational Rights and Privacy Act (FERPA). This specifically means that any education records maintained by NYU or NYU Shanghai and directly related to students — such as grades, transcripts, and test scores — will not be released to others, including parents or guardians, without the student's consent, except as provided by U. S. federal regulations.

Education records refers to any record or document containing information directly related to a student (including computerized and electronic files, audio and video tape, photographic images, film, email, etc.) and is not limited to hard-copy documents or to a file with a student's name on it.

### **Family Educational Rights and Privacy Act (FERPA)**

FERPA was enacted by the U. S. Congress to protect the privacy of students' education records, to establish the rights of students to inspect and review their education records, and to provide students with an opportunity to have information in their records corrected which is inaccurate, misleading, or otherwise in violation of their rights of privacy. FERPA also permits the disclosure by an institution without a student's prior consent of so-called "directory information" (see definition below), and of other personally identifiable information under certain limited conditions. Students have the right to file complaints with the U. S. Department of Education's Family Policy Compliance Office concerning alleged failures by an institution to comply with FERPA.

NYU Shanghai and NYU have designated the following student information as "directory information:"

Name, dates of attendance, NYU school or college (i.e., NYU Shanghai), class, previous institution(s) attended, major field of study, full- or part-time status, degree(s) conferred (including dates), honors and awards (including dean's list), past and present participation in officially recognized activities (including positions held and official statistics related to such participation and performance), email address, and NetID. Important: See notes (1) and (2) below.

1. Email address and NetID are directory information for internal purposes only and will not be made available to the general public except in specified directories from which students may opt out.
2. Under U. S. federal law, address information, telephone listings, and age are also considered directory information for military recruitment purposes. Address refers to "physical mailing address" but not email address.

FERPA governs the release of personally identifiable information to both external and internal parties, including other University employees, parents, and government agents. The NYU Guidelines for Compliance with FERPA (accessible as indicated below) describe the circumstances and procedures governing the release of information from a student's education records to such parties.

### **Disclosure of Personally Identifiable Information**

Among other exceptions authorized by FERPA, prior consent of the student is not needed for disclosure of directory information or for disclosure to school officials with a legitimate educational interest in access to the student's educational record. School officials having a legitimate educational interest include any NYU Shanghai or NYU employee acting within the scope of her or his employment, and any duly appointed agent or representative of NYU Shanghai or NYU acting within the scope of her or his appointment. In addition, NYU or NYU Shanghai may, at its sole discretion, forward education records to the officials of another institution (a) in which a student seeks or intends to enroll if that institution requests such records, or (b) if the student is enrolled in or receiving services from that institution while she or he is attending NYU Shanghai or NYU. Other exceptions are listed in the NYU FERPA Guidelines.

### **Additional Information for Students about Records Access**

Students may obtain additional information about access to their records from the NYU FERPA Guidelines. The NYU FERPA Guidelines may be viewed online, or you can contact the NYU Shanghai registrar. Students should also read the FERPA Annual Notice to Students.

## B. Computing and Information Resources Code of Ethics

The ethical principles which apply to everyday community life also apply to computing. Every member of NYU Shanghai has two basic rights: privacy and a fair share of resources. It is unethical for any other person to violate these rights.

### Privacy

- \* On shared computer systems every user is assigned an ID. Nobody else should use an ID without explicit permission from the owner.
- \* All files belong to somebody. They should be assumed to be private and confidential unless the owner has explicitly made them available to others.
- \* Messages sent to other users should always identify the sender.
- \* Network traffic should be considered private.
- \* Obscenities should not be sent by computer.
- \* Records relating to the use of computing and information resources are confidential.
- \* Nobody should deliberately attempt to degrade or disrupt system performance or to interfere with the work of others.
- \* Loopholes in computer systems or knowledge of a special password should not be used to alter computer systems, obtain extra resources, or take resources from another person.
- \* Computing equipment owned by departments or individuals should be used only with the owner's permission.
- \* NYU Shanghai computing resources are provided for university purposes and are governed by the [NYU Shanghai IT Guidelines](#). Any use of computing resources for commercial purposes or personal financial gain must be authorized in advance. Many of the agreements that the university has specifically forbid this kind of activity.
- \* Computing and information resources are community resources and may not be used to violate applicable law. Theft, mutilation, and abuse of these resources violate the nature and spirit of community and intellectual inquiry.

### System Administration

- \* On rare occasions, computing staff may access others' files, but only when strictly necessary for the maintenance of a system.
- \* If a loophole is found in the security of any computer system, it should be reported to the system administrator and not used for personal

gain or to disrupt the work of others.

- \* The distribution and copying of programs, digital information and databases are controlled by the laws of copyright, licensing agreements, and trade secret laws. These must be observed.

This code of ethics lays down general guidelines for the use of computing and information resources, which are primarily governed by the [NYU Shanghai IT Guidelines](#). Failure to observe the code may lead to disciplinary action. Offenses that involve academic dishonesty will be considered particularly serious.



## C. Emergency Temporary Closing of the University

NYU Shanghai has an important commitment to students, parents, sponsors, benefactors and the community. Accordingly, the university will make every attempt to operate normally during severe weather or other emergencies. This includes holding classes, conducting research programs, and operating facilities and services. The university will attempt to operate normally unless such operation represents a clear danger to students, staff or faculty.

There may be occasions when the university community is served best by suspending normal operations. In that event, only the Vice-Chancellor (or the Provost if the Vice-Chancellor is away) has the authority to close NYU Shanghai and to specify those persons or group of persons who are free to leave or refrain from coming to campus.

### Standard Operations

Unless the Vice Chancellor announces that NYU Shanghai is closed, everyone is expected to be at work as usual. When the university is in session, faculty members are expected to meet their scheduled classes and other obligations. If a faculty member is unable to meet a scheduled class, he or she should notify the relevant Dean and arrange either for a qualified substitute or for a future make-up session.

## D. Freedom of Expression

NYU Shanghai values the freedoms of speech, thought, expression and assembly - in themselves and as part of our core educational and intellectual mission. If individuals are to cherish freedom, they must experience it. The very concept of freedom assumes that people usually choose wisely from a range of available ideas and that the range and implications of ideas cannot be fully understood unless we hold vital our rights to know, to express, and to choose. NYU Shanghai must be a place where all ideas may be expressed freely and where no alternative is withheld from consideration. The only limits on these freedoms are those dictated by law and those necessary to protect the rights of other members of the university community and to ensure the normal functioning of NYU Shanghai.

### Rights

Within NYU Shanghai's campus buildings, any member of the NYU Shanghai community may distribute printed material, offer petitions for signature, make speeches, and hold protests or demonstrations. All such activities must be peaceful, avoiding acts or credible threats of violence and preserving the normal operation of NYU Shanghai. No event will infringe upon the rights or privileges of others, and no one will be permitted to cause significant harm to others, damage or deface property, block access to NYU Shanghai buildings or disrupt classes. The enforcement of these conditions will not depend in any way on the message or sponsorship of the act or event. When guests are invited by the university or by a recognized campus organization, they may express their ideas not because they have a right to do so, but because members of the campus community have a right to hear, see, and experience diverse intellectual and creative inquiry. Defending that right is a fundamental obligation of NYU Shanghai. Controversy cannot be permitted to abridge the freedoms of speech, thought, expression or assembly. They are not matters of convenience, but of necessity.

### Responsibilities

Freedom of expression must be at once fiercely guarded and genuinely embraced. Those who exercise it serve the NYU Shanghai community by accepting the responsibilities attendant to free expression. NYU Shanghai organizations that sponsor invited guests to campus are expected to uphold NYU Shanghai's educational

mission by planning carefully to create safe and thoughtful experiences for those involved. Hosts are responsible for the behavior of their guests and should exercise due care to ensure that all participants abide by relevant laws and NYU Shanghai policies.

## E. Human Subjects in Research at NYU Shanghai

NYU Shanghai is committed to the protection of the rights and welfare of human subjects in research investigations conducted under the jurisdiction of the university. Information about and policies applicable to human subjects research at NYU Shanghai are available at <https://research.shanghai.nyu.edu/resources/human-subjects>. The university believes that review independent of the investigator is necessary to safeguard the rights and welfare of human subjects of research investigations. All research involving human subjects is conducted in accordance with federal regulations, including Title 45 of the U.S. Code of Federal Regulations, Part 46 (45 CFR 46). Under federal regulations, human subjects are defined as: living individual(s) about whom an investigator conducting research obtains:

- (1) data through intervention or interaction with the individual, or
- (2) identifiable private information.

An Institutional Review Board (IRB) is established under the Provost to ensure adequate safeguards. The Provost is responsible for the composition of the IRB with respect to: (1) the qualifications of IRB members in terms of educational background and research or other relevant experience, and (2) broad representation of relevant university interests.

This IRB is responsible for reviewing investigational procedures involving human subjects prior to the initiation of the research procedure in reference to (1) the rights and welfare of the individuals involved, (2) the appropriateness of the methods used to obtain informed consent, and (3) the risks and potential benefits of the investigations. The IRB is responsible for determining when additional expertise is required for adequate review and for obtaining that additional expertise. The IRB is further responsible for maintaining records of its review activities and decisions and for ensuring that records of informed consent are developed and kept by investigators where appropriate.

It is the responsibility of investigators who plan to use human subjects in research to obtain written consent from the IRB prior to conducting an investigation involving human subjects. It is the investigator's further responsibility to take whatever steps are determined necessary for the protection of the subjects, and to meet the reporting requirements established by the IRB.

# *Honors and Awards*

Matriculated students with superior academic records are honored in various ways, such as by placement on the Dean's Honors List, election to honor societies, and admission to major honors programs.

Additional information may be obtained from a student's advisor and from the Academic Affairs Office.

## Honors

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### *Dean's Honors List*

A Dean's Honors List is compiled at the end of each academic year, in June. This is an honors roll of matriculated students who have achieved an average of 3.65 or higher for that academic year (September to May) in at least 28 graded credits. To be listed, a student must not have any grades of Incomplete or N at the time when the list is compiled. Note that grade point averages are carried to two decimal places (but are not rounded off).

### *Eligibility for Graduation With Latin Honors*

*All graded courses taken before a student's final semester while enrolled either in NYU Shanghai [or in another school of NYU] will be used in computing the grade point average on which Latin honors are based. Pass grades are not counted; grades received in courses taken at other institutions are also not counted. The student must also have a clean record of conduct.*

The GPA cutoffs for each category are determined by the combined GPA distribution from all graded courses taken through the J-term before the graduating cohort's final spring semester. This means that final spring semester grades are not used for determining Latin Honors and no adjustments are made to a student's status regarding Latin Honors based on final spring grades. Latin Honors are calculated once a year and only students who have at least 110 earned credits before the spring semester and have their degree conferred that spring or earlier are eligible for consideration. Students who complete their graduation requirements before the beginning of the final spring semester have all grades counted toward calculating Latin Honors.

The GPA cutoff for summa cum laude is the GPA included within the top 5 percent of the graduating class. The cut off for magna cum laude is the GPA included within the next 10 percent of the class. The cutoff for cum laude is the GPA included within the next 15 percent of the class.

### *Major Honors*

Students may be awarded degrees with major honors if they complete the designated honors sequence in the major, maintain the requisite grade point average, and are selected by their major

faculty. No more than 10 percent of students in a major may graduate with major honors.

Students seeking admission to and graduation with major honors are expected to have a minimum grade point average of 3.65, both overall and in the major. Majors may exercise some flexibility in admissions, as follows. In rare cases where a candidate for admission to a major honors program falls short of the expected minimum GPA, the major leader may petition the Assistant Provost for Academic Affairs for an exception. In all cases, once admitted, students are expected to maintain the GPA at the stipulated level in order to graduate with major honors. Should there be an exceptional circumstance in which the stipulated GPA is not maintained, the Assistant Provost for Academic Affairs may be petitioned for an exception. If the case is compelling, the latter will inform the Registrar's office of the waiver.

All students completing departmental honors must make public presentations of their work, preferably at the NYU Shanghai Undergraduate Research Symposium held at the end of the academic year, or in a major forum (e.g., oral defenses or presentations) held in conjunction with the Undergraduate Research Symposium.

Students with double majors must complete honors programs in each major for which they seek honors.

### **Provost's Award for Scholarship and/or Service**

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Presented by the Provost of NYU Shanghai to a graduating senior for outstanding accomplishment in either or both of these areas.

**Senior Award in Arts**

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Awarded to the graduating senior who has excelled in arts and who has contributed in a noteworthy way to the life of the campus during four years.

**Senior Award in Sciences**

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Awarded to the graduating senior who has excelled in sciences and who has contributed in a noteworthy way to the life of the campus during four years.

**Senior Award in Business**

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Awarded to the graduating senior who has excelled in business and who has contributed in a noteworthy way to the life of the campus during four years.

**Senior Award in Engineering  
and Computer Science**

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Awarded to the graduating senior who has excelled in engineering and computer science and who has contributed in a noteworthy way to the life of the campus during four years.

# {Part IV}

## Academic Overview

## Liberal Arts

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Ever since Cicero, the Roman statesman, invented the phrase “*artes liberales*,” the liberal arts and sciences have been the touchstone of excellence in education for all individuals, regardless of their professional aspirations. This is because these studies liberate an individual from narrowly vocational concerns and have been shown to free the mind to be creative. Today, this educational approach focuses on direct and critical engagement with the great ideas of the past and the present, on the development of the essential skills of analysis and communication, and on in-depth knowledge of one or more disciplines. A shared background in the liberal arts and sciences also has the power to transform a diverse group of students into a real community organized around the life of the mind.

Our aim is to give NYU Shanghai students a strong, globally-oriented foundation in the liberal arts and sciences. This curriculum will help students develop the ability to think analytically, read critically, and write effectively. It will also cultivate their creativity in solving problems, their tolerance for ambiguity, and their respect for diversity of opinion and the exchange of ideas. Finally, through the core curriculum, the majors, and international experiences in the NYU global network, students will learn to recognize themselves as part of a global community. The crucial role that China plays in that global community will be emphasized throughout the curriculum.

## Academic Program

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Three unique features define the NYU Shanghai approach and set it apart from most other undergraduate programs:

- » A core curriculum for the 21st century, with globally-oriented as well as China-focused social and cultural courses, writing and language courses which develop students' communication skills in both English and Chinese, and courses which introduce or strengthen a student's understanding of Mathematics, science, and algorithmic thinking;
- » A carefully selected set of majors (or specializations) that capitalize on the world-class strengths of NYU's research faculty,

departments, and programs, as well as on the limitless opportunities that Shanghai presents;

- » Access to the NYU global network through an unparalleled array of study-abroad opportunities, which are available at NYU sites around the world and which are easily integrated into students' programs of study.

## Program of Study

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NYU Shanghai students will take 128 credits of coursework to graduate; these courses will be distributed among core curriculum requirements, major requirements, and general electives. Students will typically complete the core curriculum during their first two years and the bulk of their major requirements during their second two years. Students considering some of the STEM majors (Science, Technology, Engineering, and Mathematics), however, may take longer to complete the core courses since they must begin taking required courses in their intended major as early as the first semester.

## Orientation

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Orientation will be held in Shanghai in the last week of August prior to the start of the fall semester. The primary goals of this program is to help new students smoothly transit to college life by introducing students to the inquiry-based approach to learning of NYU Shanghai's liberal arts and sciences curriculum, providing information and resources to help students settle down in a new living and learning environment, helping students get to know their peers and foster a sense of community in a diverse student body with students from different cultural backgrounds. In addition to lectures and panels on academic learnings and university resources, students will also benefit from a series of fun events, fairs and tours during the orientation week.

## Study Away

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Students are required to spend one semester studying at one of NYU's global academic centers or degree-granting campuses or at an approved International Exchange Programs (IEPs).

The earliest a student may study away and maximum semesters they may study away:

For Classes of 2022 and Later:

Students may choose to study away for up to two semesters within the 4-semester window of second semester sophomore year through first semester senior year, but study away during spring of sophomore year may not be NY or AD.

Students are required to have completed Elementary Chinese II or 8 credits of English for Academic Purposes (EAP) before they are eligible to studying away.

For Classes of 2020 and Earlier:

Students may choose to study away for up to three semesters within the 3-semester window of first semester junior year through first semester senior year.

Students are required to have completed Elementary Chinese II or 8 credits of English for Academic Purposes (EAP) before they are eligible to studying away.

For Class of 2021:

They may choose to follow either the policy applicable to Classes of 2020 and Earlier or the policy applicable to Classes of 2022 and Later. They must be in attendance in Shanghai in their final semester. NYU's global network requires students to have a 3.00 cumulative grade point average to study away. Students with a GPA below 3.00 should discuss their options with their advisor and may need to petition to the Academic Standards Committee.

Courses that students need for their major are offered at the NYU global academic centers and degree-granting campuses allowing students to continue to fulfill many of their major requirements and make normal progress toward graduation. Students can reference global course options at NYU's degree-granting campuses and study away sites through the spreadsheet Courses Satisfying Shanghai Degree Requirements. Cost of attendance varies between the Global Academic Centers and degree-granting campuses. Students can reference the cost estimator to get an estimate of their expected cost of attendance per semester. Through the application process, students agree to the Study Away Standard.



## Majors and Minors

NYU Shanghai will offer its students an array of majors and minors, which will be phased in over time. Those that will be offered initially are in subject areas where we anticipate the greatest demand, and also in which NYU has world-class faculty, major research strength, and international distinction. These include:

### Majors

NYU Shanghai majors are organized into three divisions each overseen by a Dean.

#### Arts & Sciences

##### Dean Maria Montoya

- Biology
- Chemistry
- Economics
- Global China Studies
- Humanities
- Interactive Media Arts
- Interactive Media and Business
- Mathematics
- Honors Mathematics
- Neural Science
- Physics
- Social Science

#### Business

##### Dean Yuxin Chen

- Business and Finance
- Business and Marketing

#### Computer Science and Engineering

##### Dean Keith Ross

- Computer Science
- Computer Systems Engineering
- Electrical and Systems Engineering
- Data Science

#### Self-Designed Honors Major

### Minors

#### Shanghai Minors

- Biology
  - Molecular and Cell Biology
  - Genomics and Bioinformatics
- Business
- Chemistry
- Chinese
- Computer Science
- Computer Systems Engineering
- Creative Writing
- Data Science
- Economics

- Electrical and Systems Engineering
- Global China Studies
- Humanities
- History
- Literature
- Philosophy
- Interactive Media Arts
- Interactive Media and Business
- Mathematics
- Neural Science
- Physics
- Social Science

#### Global Network Minors

- Art History Studies
- Art Studies
- Australian Culture and Society
- British Culture and Society
- Central European Culture and Society
- Cultural Studies
- Entrepreneurship and Innovation
- European Culture and Society
- Fashion Studies
- French Culture and Society
- German Culture and Society
- Global Cities Studies
- Global Public Health Studies
- Globalization Studies
- Italian Culture and Society
- Journalism Studies
- Latin American Culture and Society
- Middle Eastern Culture and Society
- Pan African Culture and Society
- Psychological Studies
- Photographic Studies
- Political Studies
- Sociological Studies
- Spanish Culture and Society
- Sustainability Studies
- West African Culture and Society

#### NYU cross-school minors

For the list of cross-school minors, see <http://www.nyu.edu/students/undergraduates/academic-services/undergraduate-advisement/unique-academic-opportunities/cross-school-minors/cross-school-minors-by-school.html>

# { Part V }

## Core Curriculum Overview

There are seven components to the NYU Shanghai core curriculum: Social Foundations, Cultural Foundations, Writing, Mathematics, Science, Algorithmic Thinking, and Language.

# 1&2 Social and Cultural Foundations

Courses in the Social Foundations and Cultural Foundations sequences will provide students with a thematic framework within which to study influential works of diverse cultures, from the beginnings of history to the present, and from global and interdisciplinary perspectives. Students will reflect on fundamental and enduring questions about what it means to be human and how we as individuals live in society. Social and Cultural

Foundations courses will teach students to ask critical questions, find unstated assumptions, assess arguments, and offer creative interpretations of the great works and ideas of the past, especially as they live on in the present.

Required courses: Social Foundations and Cultural Foundations each have two components: a) a one-semester survey course, and b) a disciplinary course on China.

**Social Foundation:** In the one-semester survey course *Global Perspectives on Society*, students will engage in the comparative study of primary works of social thought from across the globe. The course addresses ways that writers in different times and cultures have sought to situate humans within the universe, and to promote ideal standards for human behavior. Each week, students will be expected to engage one or more central texts by an important thinker on the topic. The expectation is that *Global Perspectives on Society* will be taken in the first semester.

Students will complete the Social Foundations requirement with a disciplinary course of their choice from the category “Social Science Perspectives on China,” (which may include courses on Chinese history, political economy, philosophy and society). This course can be taken at any point in a student’s undergraduate career.

*Perspectives on the Humanities* is a one-semester core curriculum requirement. In the fall of their second year at NYU Shanghai, students choose from a variety of *Perspectives on the Humanities* topics. These content-based writing seminars introduce students to the questions asked and methods used by a variety of disciplines in the humanities, including philosophy, history, and literature, among others. *Perspectives on the Humanities* is also designed to reinforce and advance the writing and thinking skills learned in the first year *Writing as Inquiry* workshop; in addition to satisfying one Cultural Foundations requirement, this course satisfies one of two writing requirements (see “Writing”). The first-year writing course is a prerequisite for *Perspectives on the Humanities*.

*Students will complete the Cultural Foundations requirement with a disciplinary course of their choice from the category “Chinese Arts,” which may include courses in Chinese art, architecture, drama, film, literature, and music. As with the courses in “Social Science Perspectives on China,” students may take their “Chinese Arts” course at any point in their undergraduate career.*

NYU Shanghai writing courses serve as an introduction to academic writing and inquiry at the university level. Students learn how to closely read academic, argumentative, and narrative texts; how to provide an interpretation supported by evidence; how to build logical arguments and develop research questions; and how to adapt their writing to different genres and audiences. In these courses, students come to see writing as a process, one that sharpens their thinking and allows them to pursue the questions that feel most urgent to them. The habits, dispositions, and skills taught in these classes may be transferred to communication in a variety of channels--academic, civic, business, personal, and creative. The capacities for critical analysis and nuanced self-expression developed in Writing Program classes will prove useful whatever a student's future career.

# Writing 3

**Required courses:** Students must complete two one-semester writing courses. Writing as Inquiry, the first-year writing workshop, is offered during the spring of the first year. Students are placed in either Writing I or Writing II; in Writing I, students spend additional time focused on areas of rhetoric, grammar, and style that are relevant to second language learners. Students must complete Writing as Inquiry (receiving a C or higher) before advancing to Perspectives on the Humanities, which is offered in fall term of the sophomore year (Perspectives on the Humanities also satisfies one Cultural Foundations requirements; see "Social and Cultural Foundations").

Fall 2018 Perspectives on the Humanities Topics (topics may change from year to year)

- American Superheroes
- Beyond Nature
- Brutes, Monsters, Ghosts, and Other Troubling Creatures
- Comparative Islamic Feminisms in World Literature
- Everything You Know About Science is Wrong
- Go West!
- Medicine and Disease in the Humanities
- Networked Bodies: Exhibits, Organ Donations, and Alternate States of Ability
- Sino-Western Literary Exchanges
- Tales of Gender and Power
- The Question of Anthropocene
- The Truth is Out There?

# 4 Mathematics

Considered by many to be the “universal language,” mathematics provides logical and analytical tools necessary for tackling many of the important problems of our time. Quantitative skills are essential for work in the sciences and the social sciences, and they also have applications in the humanities. They are also critical to one’s ability to function and to thrive in today’s increasingly

complex world.

Required courses or proficiencies: The Mathematics requirement varies depending on the background and eventual major of the student. Most students will meet the core curriculum requirement by taking the math course(s) required for their eventual major or by placing out of the math requirement through relevant exams. Students who pursue a major that does not have a math requirement may meet the core curriculum requirement through successful completion of a 4 credit NYU Shanghai math course or placing out of the math requirement altogether through relevant exams.

The relevant exam scores which may be used to fulfill the Core Curriculum Mathematics requirement are listed below. No corresponding credit is awarded and test scores cannot be used to fulfill prerequisite for upper-level courses in that area.

- AP Calculus AB or BC: Score of 4 or higher
- IB Mathematics: Score of 6 or higher
- A Level Mathematics: Score of B or higher
- NYU Shanghai Placement Into Calculus

# 5

## Science

Scientific knowledge and inquiry are central to human society, and science and technology play an increasingly important role in our lives. At the heart of the natural sciences is a quest to understand the universe and who we humans are. The special feature of science is that its hypotheses can be tested under controlled conditions by appealing to evidence external to the inquirer. Thus, science provides a consistent framework for proposing ideas and testing potential answers to these questions. NYU Shanghai students will become conversant with the intellectual methods and analytical techniques that define modern science.

Required courses: The science requirement varies depending on the background and interests of the student, as follows:

- Students who are pursuing degrees in science disciplines—or who are taking the pre-health curriculum—will be required to take a rigorous, three-semester sequence of courses covering the fundamentals of basic science. Emphasis is placed on science as a process, from hypothesis development to testing and experimentation, on data collection, and on drawing conclusions. All of the courses in this sequence have a project-based laboratory component. In its totality, this sequence is the equivalent of full-year introductory courses in physics, chemistry, and biology. Biology, Neural Science, and Chemistry majors are not required to take Foundations of Physics III Honors and may substitute General Physics I & II for the Foundations of Physics I & II Honors courses. Physics majors are not required to take Foundations of Biology II. For more details, see the degree requirements of each major.
- Other students will fulfill the science requirement by taking 8 credits from at least two of three categories that provide a basic understanding of scientific analytical techniques, the role of science and technology in society, and algorithmic thinking. The first category, “Experimental Discovery in the Natural World”, is composed of laboratory- or experiment-based courses. The second category includes non-laboratory-based courses and is called “Science, Technology and Society.” The third category encompasses computational methods courses and is called “Algorithmic Thinking.” To fulfill a category, you must take at least one 3- or 4-credit course or two 2-credit courses in the same category.

The relevant exam scores which may be used to wholly or partially fulfill the Core Curriculum Science requirement are listed below. No corresponding credit is awarded and test scores cannot be used to fulfill prerequisite for upper-level courses in that area.

Core Curriculum Science Category	Can be fulfilled by these exams (though no credit is given)
Science Technology and Society (STS)	<ul style="list-style-type: none"> <li>• AP Environmental Science: Score of 4 or higher</li> </ul>
Experimental Discovery (ED)	<ul style="list-style-type: none"> <li>• AP Psychology: Score of 4 or higher</li> <li>• IB Psychology HL (Higher Level): Score of 6 or higher</li> <li>• A Level Psychology: Score of B or higher</li> <li>• AP Physics C- Mech OR AP Physics C – E&amp;M: Score of 4 or higher</li> </ul>
<p>Satisfies two categories and completes the entire Science Core Requirement:</p> <p>Experimental Discovery (ED) AND Science, Technology and Society (STS))</p>	<ul style="list-style-type: none"> <li>• AP Physics 1 &amp; 2, Chemistry, OR Biology: Score of 4 or higher</li> <li>• AP Physics C- Mech and AP Physics C – E&amp;M: Score of 4 or higher</li> <li>• IB Biology HL, Chemistry HL, OR Physics HL: Score of 6 or higher</li> <li>• A Level Biology, Chemistry, OR Physics: Score of B or higher</li> </ul>
Algorithmic Thinking (AT))	<ul style="list-style-type: none"> <li>• AP Computer Science A: Score of 4 or higher</li> <li>• IB Computer Science HL: Score of 4 or higher</li> <li>• NYU Shanghai Placement into Introduction to Computer Science</li> </ul>

Algorithmic Thinking courses have a hands-on programming component and cover basic programming concepts.

# Algorithmic Thinking

# 6

Required courses: All students must complete at least two credits of courses from the Algorithmic Thinking category, either as part of, or in addition to, the course(s) they take to fulfil the Core Curriculum Science requirement.

The relevant exam scores which may be used to wholly or partially fulfill the Core Curriculum Algorithmic Thinking requirement are listed below. No corresponding credit is awarded..

- AP Computer Science A: Score of 4 or higher
- IB Computer Science: Score of 4 or higher
- NYU Shanghai Placement Into Introduction to Computer Science



# 7

## Language

Language study is central to the educational mission of NYU's global network. All NYU Shanghai students will command the highest levels of proficiency in academic English, the language of instruction, as can be expected for undergraduates in the world's top liberal arts universities. Chinese speakers who did not attend an English language medium high school are required to meet a

minimum requirement of successful completion of 8 credits of EAP in their first two years, following a two-semester sequence from EAP 100 to EAP 101.

Students who did not attend a Chinese language medium high school are encouraged to develop as much proficiency in Chinese as their major course of study allows with a minimum requirement of successful completion of the intermediate two level of Chinese or equivalent competency demonstrated through a placement exam..

**Required courses or proficiencies for Chinese:** In the summer before their first year, non-native Chinese speaking students' Chinese language level will be assessed. Students will have room in their schedules for formal Chinese language courses, and will benefit from a full set of courses, from the elementary level to the most advanced level. Engineering and FoS students are unable to take 4 credit courses in Chinese in their first year because of heavy requirements in their major. They will be able to complete the requirement for a 4-credit Elementary or Intermediate level of Chinese class by completing two 2-credit Chinese classes over fall and spring semesters. These 2-credit Chinese classes are not open to other major or study away students. There will also be multiple modalities of instruction that take advantage of the latest pedagogical and technological developments. These will include formal intensive coursework during the Summer Session, language labs, online study, and co-curricular language coaching with immersion experiences. Students are required to have successfully completed Elementary Chinese II with a grade of C or better before they study away. To graduate students must successfully complete the Intermediate II level of Chinese or demonstrate equivalent competency through a placement exam.

**Required courses or proficiencies for English:** The English for Academic Purposes Program at NYU Shanghai is an essential gateway into the liberal arts experience. Student success in the liberal arts curriculum depends on high-level English literacy that goes beyond the language skills practiced in traditional language courses. To meet this goal, NYU Shanghai offers English for Academic Purposes (EAP) courses, which are designed as semester-long seminars with various interdisciplinary themes. These courses develop students' ability to communicate in English in a variety of contexts, connecting their understanding of the academic context with situations and experiences beyond the walls of the university, communicating academic knowledge to both academic and non-academic audiences, and communicating effectively across cultural boundary lines. The focus on using language and academic discourse skills in interdisciplinary contexts leads also to an increase in a student's ability to transfer knowledge and skills from one context to another. Students develop a necessary foundation for skillful participation in English language discourse that prepares them to negotiate and respond to the constant changes in many areas of their studies and life in general.

Chinese speakers who did not attend an English medium high school are required to take 8 credits of EAP in their first two years, following a two-semester sequence from EAP 100 to EAP 101. EAP 100 must be completed in the first year; most students

will complete a 4-credit EAP 100 seminar in fall term and an EAP 101 seminar in the spring term. A small number of students taking course sequences in the sciences will be eligible to take two 2-credit EAP 100 seminar in the first year and complete EAP 101 the following year. Advisors will alert students if they are eligible for the 2-credit seminar. Students must successfully complete EAP 101 before the end of their second year and before they study away. Students who demonstrate exceptionally strong competence on all learning outcomes as they complete EAP 100 may be recommended by faculty for exemption from EAP 101. Exemptions are rare and most students should expect to complete 8 credits.

#### English for Academic Purposes Courses:

- English for Academic Purposes 100
- English for Academic Purposes 101

#### EAP 100 Topics for Fall 2018 (course topics may change from semester to semester)

- Business in the 21st Century
- Science in the Public Sphere
- Negotiating Self and Other

**I. Social Foundations - Two Classes:**

A. CCSF-SHU 101 Global Perspectives on Society (One Class) Fall

B. "Social Science Perspectives on China" (One Class)

**Sample courses:**

Not every course listed is taught every semester, and in any given semester other courses may be offered that fulfill this requirement. Some courses are listed in Chinese Arts and in the SSPC requirement above but courses may only meet requirements for one category for any particular student.

BPEP-SHU 9042 (GCHN-SHU 342)	The Political Economy of East Asia
CCSF-SHU 120	The Rise of Modern China (Modern China and World Economy)
CCSF-SHU 121	China's Development in a Comparative Perspective
CCSF-SHU 122	Traditional Chinese Wisdom and Its Transformation in Modern Times
CCSF-SHU 123	Contemporary Chinese Political Thought (China's Political Thought in the Post-Maoist Era)
CCSF-SHU 124	Growing Shanghai, Shrinking Detroit
CCSF-SHU 125	Global Cultural Heritage
CCSF-SHU 127	Public Policy Perspectives on China: An Introduction to Policy Analysis II
CCSF-SHU 128	Shanghai: Architecture and Urban Design of the 21st Century City
CCSF-SHU 132	Globalization, Urbanization, and Global Cities in Asia
CCSF-SHU 133	Governing the Local
CCSF-SHU 134	"China for Sale": Drugs, Food, Travel, and Advertising in Modern China
CCSF-SHU 164J	The Stuff of Legends: The Many Meanings of the Early Silk Road(s)
ECON-SHU 238	History of Modern Economic Growth: Exploring China From a Comparative Perspective
GCHN-SHU 110	The Concept of China
GCHN-SHU 165	Seek Knowledge, even onto China: The Islamic World and China
GCHN-SHU 224	Chinese Maritime History
GCHN-SHU 230	Culture & Media in Urban China
GCHN-SHU 231	Social & Cultural Debates
GCHN-SHU 232	From Qing to the Republic: Social Debates in China
GCHN-SHU 240	Modern Chinese Governance
GCHN-SHU 243	Chinese Environmental Studies
GCHN-SHU 252	20th-Century East Asia-U.S. Relations
GCHN-SHU 270	Researching Chinese Politics and Society
HIST-SHU 120	The Mongol Conquest in World
HIST-SHU 125	China's Last Empire: Understanding Qing History, 1636-1911
HIST-SHU 153 (EAST/HIST-UA 9053)	History of Modern China Since 1840
HIST-SHU 179	History of Modern China in A Global Context
HIST-SHU 226	5000 Years of Chinese History: Fact or Fiction?
HIST-SHU 250	China at the Center? An Exploration of Chinese Foreign Relations
HIST-SHU 312	China Encounters the World

# Core Curriculum Courses

HIST-SHU 313	China Goes Global: How China and the World Changed Each Other
HIST-SHU 325	The New Cold War History
HIST-SHU 351	From Human Sacrifices to Illicit Sex at a Funeral: A History of Violence and Crime in Ancient China
HIST-SHU 379	The Social Life of Things: Functions of Material Culture in Ancient Chinese Society and Beyond
HUMN-SHU 225	Topics in Asia-Pacific History
HUMN-SHU 366 (266)	Shanghai Stories
INTM-SHU 193	Chinese Cyberculture
(MCC-SHU 9993)	
INTM-SHU 225	Media and Participation
INTM-SHU 249	Street Life & Street Food in the 21st Century City
INTM-SHU 250	Special Topics in Digital Humanities: Street Food & Urban Farming
JOUR-SHU 9202	Methods and Practice: Journalism
LWSO-SHU 491	International Investment Transactions in Developing Countries
LWSO-SHU 9251	Topics in Law and Society: Law, Culture, & Politics in China
(SOCS-SHU 251)	
POL-UA 9563	International Politics and U.S.-China Relations
RELS-SHU 9270	Religion and Society in China: Gods, Ghosts, Buddhas and Ancestors
(RELST-UA 9270)	
SCA-SHU 9634	Global Connections: Shanghai
SOCS-SHU 150	Introduction to Comparative Politics
SOCS-SHU 172	U.S. Constitution
SOCS-SHU 229	Capitalism, Socialism, Communism: Theory and Practice
SOCS-SHU 272	The U.S. Constitution: Is It Relevant to China?
SOCS-SHU 275	U.S. China Relations
SOCS-SHU 450	Topics in Environmental Values & Society: Chinese Environmental Governance
(ENVST-UA 9450)	

## II. Cultural Foundations - Two Classes:

A. Perspectives on the Humanities (One Class) Fall

B. "Chinese Arts" (One Class) Sample Courses:

### Sample courses:

Not every course listed is taught every semester, and in any given semester other courses may be offered that fulfill this requirement. Some courses are listed in Chinese Arts and in the SSPC requirement above but courses may only meet requirements for one category for any particular student.

ART-SHU 210/9210	Introduction to Studio Art
ART-SHU 301/9301	Introduction to Photography I
ART-SHU 1910	Projects in Studio Art - China
ART-SHU 380	Projects in Photography
(ART-UE 9380)	
CCCF-SHU 110J	Introduction to Shanghai Cinema Legacy and China's Film Culture and Industry Today
CCCF-SHU 120	Chinese Art and Modern World
CCCF-SHU 121	History of Chinese Cinemas
CCCF-SHU 122	China: Cultures and Contexts
CCCF-SHU 123	Chinese Literature in the 20th Century
CCCF-SHU 124	Chinese Music from Antiquity to the Present
CCCF-SHU 125	Chinese Theatrical Traditions
CCCF-SHU 126	Contemporary Chinese Art in Shanghai
CCCF-SHU 128	Contemporary Art & New Media
(ART-SHU 9077)	
CCCF-SHU 130	Screening Childhood
CCCF-SHU 131	History of Chinese Cinemas II
CCCF-SHU 132	Love and War, Wisdom and Strife: Chinese Poetry in a Global Context
CCCF-SHU 133	Journalism and Society in China
CCCF-SHU 134	Politics and Aesthetics of New Chinese Documentary: Globalization and Social Transformations
CCCF-SHU 9101	Cultural Foundations I
EAST-UA 9540	Chinese Film and Society
GCHN-SHU 200	Topics in Global China Studies: Global Chinese Food
GCHN-SHU 207	20th-century Chinese Writers in Global Context
GCHN-SHU 230	Culture & Media in Urban China
GCHN-SHU 231	Social & Cultural Debates
GCHN-SHU 251	Worldwide Chinese Diaspora
GCHN-SHU 263	Modern Chinese Writers
GCHN-SHU 264	Chinese Migrant and Diasporic Networks
HUMN-SHU 229	Masters of Asian Cinema
(CCCF-SHU 129)	
HUMN-SHU 267	Representing Ethnicity in Mainland China and Beyond A comparative Study
HUMN-SHU 366 (266)	Shanghai Stories
INTM-SHU 127	Paper Art: History and Practice
(CCCF-SHU 127)	
INTM-SHU 184	Communities and Net Literature (Exploring Net Literature)
INTM-SHU 193	Chinese Cyberculture
(MCC-SHU 9993)	
INTM-SHU 225	Media and Participation

# Core Curriculum Courses

(formerly SOCS-SHU 225)  
 JOUR-SHU 9202  
 LIT-SHU 222  
 LIT-SHU 223  
 MCC-SHU 9451  
 (MCC-UE 9451)  
 RELS-SHU 9270  
 (RELST-UA 9270)  
 SCA-SHU 9634

Methods and Practice: Journalism  
 Chinese Poetry (in Translation)  
 Magic and Realism in Chinese Literature  
 Global Media Sem: China  
  
 Religion and Society in China: Gods, Ghosts, Buddhas and  
 Ancestors  
 Global Connections: Shanghai

## III. Mathematics - Varies by Major and Placement (see "Mathematics" Section 2)

*Core Math classes:*

MATH-SHU 009	Precalculus (Algebra and Calculus)
MATH-SHU 010	Quantitative Reasoning: Great Ideas in Mathematics
MATH-SHU 105	Analysis and some Applications in Real world life
MATH-SHU 121 (110)	Calculus
MATH-SHU 123	Multivariable Calculus
MATH-SHU 140 (117)	Linear Algebra
MATH-SHU 160	Networks and Dynamics (Introduction to Systems and Dynamics)
MATH-SHU 201 or 122	Honors Calculus (Calculus Emphasizing Proofs; Analysis 1)
MATH-SHU 212 (124,112)	Multivariable Calculus and Differential Equations
MATH-SHU 233	Theory of Probability

## IV. Science - Varies by Major (see “Science” Section 3):

### *Experimental Discovery in the Natural World Courses::*

BIOL-SHU 21 & 123	Foundations of Biology I & FoS Biology Laboratory
CCEX-SHU 111	The Domain of Crystals
CCEX-SHU 112	Mutations and Disease
CCEX-SHU 113	Brain and Behavior
CCEX-SHU 114	The Molecules of Life
CCEX-SHU 116	Where the City Meets the Sea: Studies in Coastal Urban Environments
CCEX-SHU 117	The Legacy of Tradition I: The Growth of Science in the West
CCEX-SHU 118	Sci & Tech in Pre-Modern China
CHEM-SHU 126 & 127	Foundations of Chemistry II & FoS Chemistry Lab
INTM-SHU 246-001	Topics in Experimental Interfaces & Physical Computing: Digital Farm
NEUR-SHU 160	Introduction to Brain and Behavior
PHYS-SHU 91 & 71	Foundations of Physics I Honors & FoS Physics Laboratory
PHYS-SHU 11 & 71	General Physics I & FoS Physics Laboratory
PHYS-SHU 200 & 201	Topics in Physics: Optical Imaging: Applications in Biology and Engineering & Topics: Introduction to Quantum Theory and Technology
PSYC-SHU 101	Introduction to Psychology

*\*Below is 2-credit course and counts only partially fulfilling the core requirement*

SOCs-SHU 421 \* Topics in Applied Air Quality Research

### *Science, Technology and Society Courses:*

CCEX-SHU 118	Science & Technology in Pre-Modern China
CCST-SHU 121	The Atom and Energy
CCST-SHU 122	Life in the Universe
CCST-SHU 123	State and Fate of the Earth
CCST-SHU 124	Social Issues in the New Biosciences
CCST-SHU 125	Interconnected: The History and Theory of Networks
CCST-SHU 126	From Ancient Cosmology to Science
CCST-SHU 127	Serendipity in Science
CCST-SHU 128	The Rise of Modern Science
CCST-SHU 129	Information Societies
CCST-SHU 130	Animals, Nature, Environment
CCST-SHU 131	Introduction to the Use of Scientific Data in Historical Research
CCST-SHU 132	Topics: Creativity Considered
HIST-SHU 225	The Global Space Age
HIST-SHU 302	History of Water
INTM-SHU 10J	Neighborhood, Map, Phone

# Core Curriculum Courses

INTM-SHU 240	Solar Solutions: Considering The Sun in our Digital Future
INTM-SHU 295	Seminar Topics: Political Uses of Social Media
LIT-SHU 245	Literature and Science in the Renaissance
NEUR-SHU 10J	What Can Neuroscience Tell Us About Free Will
NEUR-SHU 265	Neural Bases of Speech and Language
PHIL-SHU 90	Philosophy of Science
PHIL-SHU 91	Philosophy of Biology
PHIL-SHU 130	Philosophy of Technology: Thinking Machines (Philosophy of Science)
SOCs-SHU 135	Environment and Society
SOCs-SHU 301	Complexity
SOCs-SHU 306	Pestilence
SOCs-SHU 333	Global Environmental Politics

*\*Below is 2-credit courses and counts only partially fulfilling the core requirement*

CCSC-SHU 135	Topics in Modern Medicine
CCSC-SHU 155	Biology and Biotechnology
CCST-SHU 141	Innovation in/of Daily Spaces

## *Algorithmic Thinking Courses:*

CENG-SHU 201	Digital Logic
CSCI-SHU 11	Introduction to Computer Programming
CSCI-SHU 101	Introduction to Computer Science
CSCI-SHU 210	Data Structures
INTM-SHU 101	Interaction Lab (Introduction to Physical Computing and Computational Media)
INTM-SHU 120	Communications Lab
INTM-SHU 231	Developing Web
INTM-SHU 246	Topics in Experimental Interfaces & Physical Computing

## **V. Algorithmic Thinking**

CENG-SHU 201	Digital Logic
CSCI-SHU 11	Introduction to Computer Programming
CSCI-SHU 101	Introduction to Computer Science
CSCI-SHU 210	Data Structures
INTM-SHU 101	Interaction Lab (Introduction to Physical Computing and Computational Media)
INTM-SHU 120	Communications Lab
INTM-SHU 231	Developing Web
MATH-SHU 252	Numerical Analysis (*Only counts for 2-credits of the Algorithmic Thinking category)
PHIL-SHU 70	Logic (*Only counts for 2-credits of the Algorithmic Thinking category)



## VI. Writing

Students take two required writing courses: the first-year course Writing as Inquiry (Writing I or II) during spring term and the second-year course Perspective on the Humanities during fall term. Students will be asked to write essays primarily focused on the works studied in these survey courses.

WRIT-SHU 101 Writing as Inquiry (Writing I)

WRIT-SHU 102 Writing as Inquiry (Writing II)

Fall 2018 Perspectives on the Humanities Topics (topics may change from year to year):

CCF-SHU 101W1	Beyond Nature
CCF-SHU 101W3	Tales of Gender and Power
CCF-SHU 101W11	American Superheroes
CCF-SHU 101W16	Brutes, Monsters, Ghosts, and Other Troubling Creatures
CCF-SHU 101W17	Go West!
CCF-SHU 101W18	The Truth Is Out There?
CCF-SHU 101W20	The Question of the Anthropocene
CCF-SHU 101W21	Sino-Western Literary Exchanges
CCF-SHU 101W22	Networked Bodies: Exhibits, Organ Donations, and Alternate States of Ability
CCF-SHU 101W24	Medicine and Disease in the Humanities
CCF-SHU 101W25	Everything You Know About Science is Wrong
CCF-SHU 101W26	Comparative Islamic Feminisms in World Literature

## VII. Language

Varies by Student's Language Level and Major. To graduate students must successfully complete the intermediate two level of Chinese or achievement of equivalent competency.

Chinese language courses:

CHIN-SHU 101	Elementary Chinese I
CHIN-SHU 101-S1	Elementary Chinese I-FoS1
CHIN-SHU 101-S2	Elementary Chinese I-FoS2
CHIN-SHU 102	Elementary Chinese II
CHIN-SHU 102-S1	Elementary Chinese II-FoS1
CHIN-SHU 102-S2	Elementary Chinese II-FoS2
CHIN-SHU 111	Elementary Chinese for Advanced Beginners
CHIN-SHU 201	Intermediate Chinese I
CHIN-SHU 201-S1	Intermediate Chinese I-FoS1
CHIN-SHU 201-S2	Intermediate Chinese I-FoS2
CHIN-SHU 201A	Intermediate Chinese I - Accelerated.
CHIN-SHU 202	Intermediate Chinese II
CHIN-SHU 202A	Intermediate Chinese II - Accelerated.
CHIN-SHU 211	Intermediate Chinese for Advanced Beginners
CHIN-SHU 301	Advanced Chinese I
CHIN-SHU 302	Advanced Chinese II
CHIN-SHU 401	Classical Chinese I
CHIN-SHU 402	Classical Chinese II
CHIN-SHU 403	Readings in Chinese Culture I
CHIN-SHU 404	Readings in Chinese Culture II
CHIN-SHU 405	Reading Chinese Newspapers
CHIN-SHU 411	Introduction to Business Chinese

# Core Curriculum Courses

CHIN-SHU 415  
CHIN-SHU 416  
CHIN-SHU 429

Introduction to Contemporary China I  
Introduction to Contemporary China II  
Chinese Business and Finance-A Bilingual Introduction

To graduate, Chinese speakers who did not attend an English medium high school are required to successfully complete the 8-credit EAP 100 and 101 course sequence. Students who did not attend a Chinese language medium high school are required to develop as much proficiency in Chinese as their major course of study allows with a minimum requirement of successful completion of the intermediate two level of Chinese or equivalent competency demonstrated through a placement exam.

English Language Courses:

ENGL-SHU 100  
ENGL-SHU 101

English for Academic Purposes 100  
English for Academic Purposes 101

All students must demonstrate proficiency in English by passing or receiving an exemption from eight credits of English for Academic Purposes (EAP)."

Courses may not be used to meet major or minor requirements or as prerequisites for more advanced classes unless a grade of C or higher is earned. This means that Grades of P, C- or lower may not be used to meet major or minor requirements or as a prerequisite for more advanced courses.

# {Part VI}

## Overview of Majors

# Arts and Sciences

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BIOLOGY

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CHEMISTRY

---

ECONOMICS

---

GLOBAL CHINA STUDIES

---

HUMANITIES

---

INTERACTIVE MEDIA ARTS

---

INTERACTIVE MEDIA + BUSINESS

---

MATHEMATICS

---

HONORS MATHEMATICS

---

NEURAL SCIENCE

---

PHYSICS

---

SOCIAL SCIENCE

---

# BIOLOGY

Biology is concerned with the workings of life in all its varied forms. Over the past few decades, the life sciences have been revolutionized by the development of molecular, cellular, genomic, and bioinformatics techniques that are now being utilized to study fundamental processes in organisms as well as applying this information to improve human health, enhance rational management of our environment, develop forensic science, and augment the production of renewable energy with the concomitant sequestering of pollutants, as well as approach ethical and legal issues that impinge on biological discoveries and their applications. The Biology curriculum aims to produce scientists with inquisitive minds who are self-reliant and who seek high quality of information about how the natural world works.

Building on the foundational science courses in chemistry, physics, biology, students in the Biology major learn to use the contemporary tools and approaches that are available to solve problems in areas of the current life sciences. In developing the major, we are first focusing on covering the essential “pillars of biological concepts”: molecular and cellular biology, genetics, and evolution. We also ensure that students are trained in modern methods of quantitative and computational analysis. The major is structured that students can take a diversity of upper-level courses upon completion of the core courses. These intermediate and advanced courses provide a broad and intensive background in modern biology for those interested in careers in research, health-related fields, biotechnology, and education, among others. The biology major allows students to pursue independent research that could lead to an undergraduate thesis.

The Biology program at NYU Shanghai has strong interactive ties with the Department of Biology and the Center for Genomics and Systems Biology at NYU in New York, and the Biology program at NYU Abu Dhabi, as well as with other laboratories across NYU’s global network.

## REQUIREMENTS FOR THE MAJOR

**Note:** Not every course listed is taught every semester, and in any given semester other courses may be offered that fulfill this requirement. Requirements may be met through equivalent courses in NYU's global network with prior approval.

### Foundational Courses

- |                |  |
|----------------|--|
| • BIOL-SHU 21  | Foundations of Biology I                   |
| • BIOL-SHU 22  | Foundations of Biology II                  |
| • BIOL-SHU 123 | FoS Biology Laboratory                     |
| • CHEM-SHU 125 | Foundations of Chemistry I                 |
| • CHEM-SHU 126 | Foundations of Chemistry II                |
| • CHEM-SHU 127 | FoS Chemistry Laboratory                   |
| • PHYS-SHU 71  | FoS Physics Laboratory                     |
| • PHYS-SHU 91  | Foundations of Physics I Honors <b>OR</b>  |
| (PHYS-SHU 11)  | General Physics I                          |
| • PHYS-SHU 93  | Foundations of Physics II Honors <b>OR</b> |
| (PHYS-SHU 12)  | General Physics II                         |
| • PHYS-SHU 94  | Physics II Lab                             |

### Note:

- 1) Biology majors are encouraged to complete the above classes in their first 2 years.
- 2) Biology majors are not required to take Foundations of Physics III Honors and may substitute General Physics I & II for the Foundations of Physics I&II Honors courses.
- 3) Relationship between General Physics and Foundations of Physics Honors (FoS Physics Honors): General Physics I & II is a calculus-based course for pre-meds, engineers and others who want a broad introduction and survey of basic physics including classical mechanics, electricity and magnetism, optics and waves, and thermal and statistical physics. Foundations of Physics I-IV Honors covers a similar set of topics in considerably greater depth, plus special relativity and an introduction to quantum mechanics, over four semesters. Please note that Foundations of Physics I & II Honors alone do not include some important topics, such as optics, thermal and statistical physics, which are included in Foundations of Physics III Honors, and introduction to mechanics and condensed matter physics in Foundations of Physics IV Honors. Therefore, students electing to take the Honors Physics track are highly recommended to take Foundations of Physics III Honors and Foundations of Physics IV Honors. Students with strong high-school backgrounds in physics or maths are also highly recommended to take Foundations of Physics I-IV Honors.

### Required Courses

- |                 |  |
|-----------------|--|
| • NEUR-SHU 100  | Math Tools for Life Sciences   |
| • BIOL-SHU 250  | Organismal Systems   |
| • CHEM-SHU 225  | Organic Chemistry I  |
| • CHEM-SHU 225L | Organic Chemistry I Lab  |
| • BIOL-SHU 998  | Integrated Science Capstone (This course must be taken in the last semester before graduation) |

### Biology Electives - Choose Five

Not every course listed is taught every semester, and in any given semester other courses may be offered that fulfill this requirement. Requirements may be met through equivalent courses in the NYU's global network with prior approval.

Students are strongly encouraged (but not required) to take Organic Chemistry II as a general elective.

### Sample Courses:

- |                |                             |
|----------------|-----------------------------|
| • BIOL-SHU 30  | Genetics                    |
| • BIOL-SHU 31  | Genetics Laboratory         |
| • BIOL-SHU 200 | Molecular Biology of Cancer |
| • BIOL-SHU 261 | Genomics and Bioinformatics |
| • BIOL-SHU 263 | Developmental Biology       |
| • BIOL-SHU 314 | Advanced Cell Biology Lab   |

- BIOL-SHU 997 Independent Research / Research Internship (Note that one 4-credit Independent Study is allowed to count towards the Biology major elective)
- CHEM-SHU 881 Biochemistry I
- CHEM-SHU 882 Biochemistry II
- MATH-SHU 160 Networks and Dynamics
- NEUR-SHU 201 Introduction to Neuroscience

**Note:** Pre-health students may wish to take Introduction to Psychology or another relevant social sciences course, as required or recommended by some medical schools. Students interested in pursuing careers in the health sciences should meet with advising staff early on to ensure adequate course planning.

## Biology Minor

### A. Molecular and Cell Biology Minor

- BIOL-SHU 21 Foundations of Biology I
  - BIOL-SHU 22 Foundations of Biology II
  - BIOL-SHU 123 Foundations of Biology Lab
  - BIOL-SHU 30 Genetics **OR**
  - BIOL-SHU 263 Developmental Biology
  - BIOL-UA 36 At the Bench: Applied Molecular Biology DNA Techniques **OR**
  - (BIOL-UA 37) At the Bench: Applied Cell Biology **OR**
- One approved class to count towards this minor

### B. Genomics and Bioinformatics Minor

- BIOL-SHU 21 Foundations of Biology I
- BIOL-SHU 22 Foundations of Biology II
- BIOL-SHU 123 Foundations of Biology Lab
- BIOL-SHU 261 Genomics and Bioinformatics
- BIOL-SHU 267 Microbiology and Microbial Genomics **OR**
- (BIOL-GA 1128) Systems Biology **OR**
- (BIOL-UA 58) Evolution

# BIOLOGY

## SAMPLE SCHEDULE 1

This is just one example of how a student could organize their courses if pursuing a Biology major. It assumes a student begins taking Biology major courses in the first semester of their first year. Sample Schedule 2 offers an alternate plan that involves beginning to pursue a Biology major in the spring semester of the first year. Students may propose alternative schedules to their advisors as well.

### Year 1

#### Fall Semester

Global Perspectives on Society

Core Class (Calculus)

8 credits:  
Foundations of Physics I  
Honors/General Physics I,  
Foundations of Chemistry I, and FoS Physics Labo-

2 credits: English or Chinese

#### Spring Semester

Writing as Inquiry

Core Class

8 credits:  
Foundations of Biology I,  
Foundations of Chemistry II and FoS Chemistry Laboratory

2 credits: English or Chinese

### Year 2

#### Fall Semester

Perspectives on the Humanities

5 credits:  
Organic Chemistry I +  
Organic Chemistry I Lab

5 credits: Foundations  
of Biology II and FoS  
Biology Laboratory

Chinese, or General Elective

#### Spring Semester

5 credits: Foundations of  
Physics II Honors/General  
Physics II, Physics II Lab

Organismal Systems

Biostatistics

Chinese, English, or  
General Elective (Organic  
Chemistry II for pre-med  
students)

### Year 3

#### Fall Semester

Biology Elective

Biology Elective

Chinese, or General  
Elective

General Elective

#### Spring Semester

Biology Elective

General Elective

General Elective

General Elective

### Year 4

#### Fall Semester

Biology Elective

General Elective

General Elective

General Elective

#### Spring Semester

Biology Elective

Integrated Science  
Capstone

General Elective

General Elective



# BIOLOGY

## SAMPLE SCHEDULE 2

### Year 1

#### Fall Semester

Global Perspectives on Society	Core Class (Calculus)	Core Class	English, Chinese, or General Elective
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#### Spring Semester

Writing as Inquiry	Core Class	3 credits: Foundations of Biology I	English, Chinese, or General Elective
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### Year 2

#### Fall Semester

Perspectives on the Humanities	8 credits: Foundations of Biology II, Foundations of Chemistry I, FoS Biology Laboratory	Chinese, or General Elective	No Class
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#### Spring Semester

Biostatistics	Organismal Systems	5 credits: Foundations of Chemistry II, FoS Chemistry Laboratory	Biology Elective, Chinese, or General Elective
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### Year 3

#### Fall Semester

5 credits: Organic Chemistry I + Organic Chemistry I Lab	Biology Elective	Biology Elective	General Elective
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#### Spring Semester

Biology Elective	Biology Elective	General Elective (Could be Organic Chemistry II for pre-med students)	General Elective
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### Year 4

#### Fall Semester

5 credits: Foundations of Physics I Honors, FoS Physics Laboratory	General Elective	General Elective	General Elective
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#### Spring Semester

5 credits: Foundations of Physics II Honors, Physics II Lab	Integrated Science Capstone	General Elective	General Elective
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Chemistry is the study of the world of molecules: how they are created from atoms, how their structures affect their chemical and physical properties, and how they unite or assemble to form the matter that makes up the physical world. Knowledge of chemistry is fundamental to an in-depth understanding of the structural properties and biochemical reactions that define all living systems. Chemistry is therefore the central science that bridges physics and the life sciences, and is a foundation to many other fields, such as materials science, earth science, and forensic science. The challenges that society faces in the twenty-first century, such as managing climate change, sourcing clean energy, and ensuring food security, are at their root chemical problems. With a global perspective and a broad science curriculum at its core, our chemistry major program gives students a comprehensive outlook necessary to tackle these challenges.

A key characteristic of the chemistry major at NYU Shanghai is a good balance between depth and breadth of study: following the foundational science courses in chemistry, physics and biology, students take the essential “canon” of organic chemistry and physical chemistry lectures and labs. Students then have flexibility in choosing three or more chemistry electives in areas of specialization that interest them, including Inorganic Chemistry, Analytical Chemistry, Computational Chemistry, and biochemistry courses. A distinguishing feature of chemistry is the importance of creativity, whether it be in synthesizing new molecules, discovering novel reactions and materials, or developing new theories of matter. All chemistry students undertake a research or literature review project during their last semester in an Integrate Science Capstone course. Advanced students are encouraged to undertake two or more semesters of research with faculty, potentially culminating in an undergraduate thesis and chemistry honors.

Majoring in chemistry provides good preparation for graduate study in chemistry and related fields, such as biochemistry, biomedicine, and materials science. Chemistry major students are also well prepared for professional school, including medical, pharmacy, dental, optometry, veterinary, forensic, and law school. Students who, instead, decide to enter industry after graduation are well-served by the combination of creative and quantitative skills developed in the chemistry major that transfer to diverse sectors from data science to biotechnology to finance.

## REQUIREMENTS FOR THE MAJOR

**Note:** Not every course listed is taught every semester, and in any given semester other courses may be offered that fulfill this requirement. Requirements may be met through equivalent courses in NYU's global network with prior approval.

### Foundational Courses

- |                 |  |
|-----------------|--|
| • BIOL-SHU 21   | Foundations of Biology I                   |
| • BIOL-SHU 22   | Foundations of Biology II                  |
| • BIOL-SHU 123  | FoS Biology Laboratory                     |
| • CHEM-SHU 125  | Foundations of Chemistry I                 |
| • CHEM-SHU 126  | Foundations of Chemistry II                |
| • CHEM-SHU 127  | FoS Chemistry Laboratory                   |
| • PHYS-SHU 71   | FoS Physics Laboratory                     |
| • PHYS-SHU 91   | Foundations of Physics I Honors <i>OR</i>  |
| • (PHYS-SHU 11) | General Physics I                          |
| • PHYS-SHU 93   | Foundations of Physics II Honors <i>OR</i> |
| • (PHYS-SHU 12) | General Physics II                         |
| • PHYS-SHU 94   | Physics II Laboratory                      |

### Note:

- 1) Chemistry majors are encouraged to complete the above classes in their first 2 years.
- 2) Chemistry majors are not required to take Foundations of Physics III Honors and may substitute General Physics I & II for the Foundations of Physics I&II Honors.
- 3) Relationship between General Physics and Foundations of Physics Honors: General Physics I & II is a calculus-based course for pre-meds, engineers and others who want a broad introduction and survey of basic physics including classical mechanics, electricity and magnetism, optics and waves, and thermal and statistical physics. Foundations of Physics I- IV Honors covers a similar set of topics in considerably greater depth, plus special relativity and an introduction to quantum mechanics, over four semesters. Please note that Foundations of Physics I & II Honors alone do not include some important topics, such as optics, thermal and statistical physics, which are included in Foundations of Physics III Honors, and introduction to mechanics and condensed matter physics in Foundations of Physics IV Honors. Therefore, students electing to take the Honors Physics track are highly recommended to take Foundations of Physics III Honors and Foundations of Physics IV Honors. Students with strong high-school backgrounds in physics or mathematics are also highly recommended to take Foundations of Physics I- IV Honors.

### Required Courses

- |                |  |
|----------------|--|
| • CHEM-SHU 225 | Organic Chemistry I +Organic Chemistry I Lab   |
| • CHEM-SHU 226 | Organic Chemistry II + Organic Chemistry II Lab  |
| • CHEM-SHU 651 | Physical Chemistry: Quantum Mechanics and Spectroscopy   |
| • CHEM-SHU 652 | Physical Chemistry: Thermodynamics and Kinetics  |
| • CHEM-SHU 661 | Physical Chemistry Laboratory  |
| • MATH-SHU 123 | Multivariable Calculus   |
| • CHEM-SHU 998 | Integrated Science Capstone (This course must be taken in the last semester before graduation) |

### Chemistry Electives - Choose Three

- |                |                           |
|----------------|---------------------------|
| • CHEM-SHU 285 | Experimental Biochemistry |
| • CHEM-SHU 310 | Biophysical Chemistry     |
| • CHEM-SHU 312 | Analytical Chemistry      |
| • CHEM-SHU 711 | Inorganic Chemistry       |
| • CHEM-SHU 752 | Computational Chemistry   |
| • CHEM-SHU 881 | Biochemistry I            |
| • CHEM-SHU 882 | Biochemistry II           |

**Note:**

- 1) The Integrated Science Capstone must be taken in the last semester before graduation.
- 2) Students interested in pursuing graduate study in Chemistry are strongly encouraged to take Inorganic Chemistry.
- 3) Additional advanced chemistry courses in NYU's global network can also meet the Chemistry Electives requirement. Students should consult with their Academic Advisor for further details.

**General Electives**

Students may take any courses in NYU's global network to satisfy the general elective requirements, but are strongly encouraged to take the following mathematics and computer science courses.

**Recommended Mathematics General Electives:**

- MATH-SHU 235 Probability and Statistics
- MATH-SHU 265 Linear Algebra and Differential Equations

**Recommended Computer Science General Elective:**

- CSCI-SHU 11 Introduction to Computer Programming
- CSCI-SHU 101 Introduction to Computer Science

**Chemistry Minor**

- CHEM-SHU 125 Foundations of Chemistry I
- CHEM-SHU 126 Foundations of Chemistry II
- CHEM-SHU 127 FoS Chemistry Laboratory
- CHEM-SHU 225 Organic Chemistry I + Organic Chemistry I Lab
- CHEM-SHU 226 Organic Chemistry II + Organic Chemistry II Lab

# CHEMISTRY

## SAMPLE SCHEDULE 1

This is just one example of how a student could organize their courses if pursuing a chemistry major. It assumes a student begins taking chemistry major courses in the first semester of their first year. Sample Schedule 2 offers an alternate plan that involves beginning to pursue a chemistry major in the spring semester of the first year. Students may propose alternative schedules to their advisors as well.

### Year 1

#### Fall Semester

Global Perspectives on Society I

Core Class (Calculus)

8 credits:  
Foundations of Physics I Honors, Foundations of Chemistry I, and FoS Physics Laboratory

2 credits:  
English or Chinese

#### Spring Semester

Writing as Inquiry

Multivariable Calculus

8 credits:  
Foundations of Chemistry II, FoS Chemistry Laboratory, Foundations of Biology I

2 credits:  
English or Chinese

### Year 2

#### Fall Semester

Perspectives on the Humanities

5 credits:  
Organic Chemistry I + Organic Chemistry I Lab

5 credits:  
Foundations of Biology II and FoS Biology Laboratory

Core, Chinese or General Elective

#### Spring Semester

Core class

5 credits:  
Organic Chemistry II + Organic Chemistry II Lab

5-credits: Foundations of Physics II Honors/ General Physics II, Physics II Lab

Chinese, English or General Elective

### Year 3

#### Fall Semester

Physical Chemistry: Quantum Mechanics and Spectroscopy

Chemistry Elective

Chinese or General Elective

General Elective

#### Spring Semester

Physical Chemistry Laboratory

Physical Chemistry: Thermodynamics and Kinetics

Chemistry Elective, e.g. Inorganic Chemistry (NY only in Spring)

Chinese or General Elective

### Year 4

#### Fall Semester

Chemistry Elective

General Elective

General Elective

General Elective

#### Spring Semester

Integrated Science Capstone

General Elective

General Elective

General Elective

# CHEMISTRY

## SAMPLE SCHEDULE 2

### Year 1

#### Fall Semester

Global Perspectives on Society I	Core Class	Core or General Elective	English, Chinese, or General Elective
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#### Spring Semester

Writing as Inquiry	Core Class (Calculus)	3 credits: Foundations of Biology I	English, Chinese, General Elective
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### Year 2

#### Fall Semester

Perspectives on the Humanities	13 credits: Foundations of Physics I Honors, Foundations of Chemistry I, and FoS Physics Laboratory, Foundations of Biology II, FoS Biology Laboratory	No Class	No Class
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#### Spring Semester

Core or General Elective	Multivariable Calculus	10 credits: Foundations of Physics II Honors, Foundations of Chemistry II, FoS Chemistry Laboratory, Physics II Laboratory	No Class
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### Year 3

#### Fall Semester

5 credits: Organic Chemistry I + Organic Chemistry I Lab	Physical Chemistry: Quantum Mechanics and Spectroscopy	Chinese or General Elective	General Elective
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#### Spring Semester

5 credits: Organic Chemistry II + Organic Chemistry II Lab	Physical Chemistry: Thermodynamics and Kinetics	Physical Chemistry Laboratory	Chinese or General Elective
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### Year 4

#### Fall Semester

Chemistry Elective	Chemistry Elective	General Elective	General Elective
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#### Spring Semester

Chemistry Elective	Integrated Science Capstone	General Elective	General Elective
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# ECONOMICS

The best way to understand the world you live in is arguably to understand the economics that drive it. The world is constantly and increasingly confronted with public policy issues that are essentially economic in character. Economic analysis provides a coherent and logical ordered framework for examining these issues and understanding the tradeoffs involved in attempting to solve social and business problems.

The economics curriculum at NYU Shanghai is designed to introduce students to these fundamental dynamics of human life and, in doing so, is grounded in three basic pedagogical principles:

- Undergraduate students must be exposed to the “big ideas” and pressing social issues of our world and given economic frameworks for thinking about them.
- Meaningful study of economics requires being able to think about problems from local, regional, and global perspectives. Understanding how individuals make decisions also requires incorporating insights from neuroscience and psychology.
- Effective economic analysis increasingly involves both conducting and effectively communicating the results from quantitative analyses of data using econometric methods.

Building on these principles, the Economics major is designed to foster rigorous analytical abilities both in neoclassical and behavioral economics, critical writing and communication skills, and the capacity to interpret and use statistical data—all in the service of developing sound economic reasoning and problem-solving skills. These transferable strengths are of value in a broad array of academic and professional paths, from economics, business, or law, to public service or graduate studies.

## REQUIREMENTS FOR THE MAJOR

**Note:** Not every course listed is taught every semester, and in any given semester other courses may be offered that fulfill this requirement. Requirements may be met through equivalent courses in NYU's global network with prior approval. 3-credit versions of courses can generally substitute for a 4-credit required course but note that a 2-credit course with a similar title or content will not by itself meet the requirement of the named required course.

### Required Courses

- ECON-SHU 1 (ECON-SHU 251) Principles of Macroeconomics *OR* Economics of Global Business
- ECON-SHU 3 (ECON-SHU 2) Microeconomics *OR* Principles of Microeconomics
- ECON-SHU 10 Intermediate Microeconomics
- ECON-SHU 202 Intermediate Macroeconomics
- ECON-SHU 301 Econometrics
- MATH-SHU 235 (BUSF-SHU 101) Probability and Statistics *OR* Statistics for Business and Economics

### Economics Electives - 24 Credits, at least 8 credits must be from "Advanced Economics Electives" and at least one course must be from "Economics Capstone Electives"

The courses listed below are not an exhaustive list. If you would like to see if a course not listed below can count as an Economics Elective, please contact your advisor to have the course reviewed.

### Advanced Economics Electives

- ECON-SHU 201 Mathematics for Economists (*substituted by taking both Linear Algebra AND Multivariable Calculus*)
- ECON-SHU 225 Advanced Economic Theory
- ECON-SHU 402 Advanced Econometrics
- ECON-SHU 409 Advanced Topics in Macroeconomics
- ECON-SHU 416 Game Theory: Advanced Applications
- ECON-SHU 423 Econometrics for High Dimensional and Financial Data

### Economics Electives

- BPEP-SHU 9042 The Political Economy of East Asia (formerly ECON-SHU 211)
- BPEP-SHU 238 International Economics
- ECON-SHU 5 Math for Econ 1: Optimization
- ECON-SHU 207 Urban and Real Estate Economics
- ECON-SHU 213 Causal Inference in the Social Sciences
- ECON-SHU 215 Economic History
- ECON-SHU 216 Introduction to Game Theory
- ECON-SHU 238 History of Modern Economic Growth: Exploring China From a Comparative Perspective
- ECON-SHU 260 International Trade
- ECON-SHU 306 Economics of Education
- ECON-SHU 316 Industrial Organization
- ECON-SHU 317 Quantitative Methods for the Economics of Gender
- ECON-SHU 332 Monetary Economics
- ECON-SHU 335 Development Economics
- ECON-SHU 338 International Economics
- ECON-SHU 342 Behavioral Economics
- ECON-SHU 349 Health Economics
- ECON-SHU 351 Labor Economics
- ECON-SHU 353 Public Economics
- ECON-SHU 355 Law and Economics
- ECON-SHU 360 Experimental Economics
- ECON-SHU 368 Financial Economics
- ECON-SHU 997 Economics Independent Study



### **Economics Capstone Electives**

- ECON-SHU 451 Economics Capstone Research
- ECON-SHU 453 Economics Honors Program (same as BUSF-SHU 3 Business Honors Program)

### **Economics Minor**

- BUSF-SHU 101 Statistics for Business and Economics **OR**
- MATH-SHU 235 Probability and Statistics **OR**  
(MATH-SHU 233) Theory of Probability **OR**  
(MATH-SHU 234) Mathematical Statistics
- ECON-SHU 1 Principles of Macroeconomics **OR**  
(ECON-SHU 251) Economics of Global Business
- ECON-SHU 3 Microeconomics **OR**  
(ECON-SHU 2) Principles of Microeconomics
- ECON-SHU 202 Intermediate Macroeconomics **OR**  
(ECON-SHU 10) Intermediate Microeconomics
- Two additional 4-credit courses from the Economics elective list

# ECONOMICS

## SAMPLE SCHEDULE 1

This is just one example of how a student could organize their courses if pursuing a Economics major. It assumes a student begins taking Economics major courses in the first year. Sample Schedule 2 offers an alternate plan that begins in the second year. Students may propose alternative schedules to their advisors as well.

### Year 1

#### Fall Semester

Global Perspectives on Society

Core Class (Calculus)

Core or Principles of Macroeconomics

English or Chinese

#### Spring Semester

Writing as Inquiry

Microeconomics

Probability and Statistics  
or alternate courses, see  
pg. 105

English or Chinese

### Year 2

#### Fall Semester

Perspectives on the Humanities

Intermediate Macroeconomics

Principles of Macroeconomics or Econometrics

Chinese or Core

#### Spring Semester

Intermediate Macroeconomics

Econometrics or Multivariate Calculus or Mathematics for Economists

Economics Elective or Core

Chinese or Core

### Year 3

#### Fall Semester

Core class

Economics Elective

General Elective

General Elective

#### Spring Semester

Core class

Economics Elective

Advanced Economics Elective

General Elective

### Year 4

#### Fall Semester

Core class

Advanced Economics Elective

General Elective

General Elective

#### Spring Semester

Core class

Economics Capstone Research

General Elective

General Elective

# ECONOMICS

## SAMPLE SCHEDULE 2

### Year 1

#### Fall Semester

Global Perspectives on Society

Core Class  
(Pre-Calculus or Calculus)

Core or General Elective

English or Chinese

#### Spring Semester

Writing as Inquiry

Calculus or Core class

Core or General Elective

English or Chinese

### Year 2

#### Fall Semester

Perspectives on the Humanities

Microeconomics

Probability and Statistics  
or alternate courses, see  
pg. 105

Core or General Elective

#### Spring Semester

Principles of Macroeconomics

Econometrics

Mathematics for Economists or  
Multivariate Calculus or  
General Elective

Core or General Elective

### Year 3

#### Fall Semester

Intermediate Microeconomics

Intermediate Macroeconomics

Core or General Elective

General Elective

#### Spring Semester

Core or General Elective

Economics Elective

Economics Elective

General Elective

### Year 4

#### Fall Semester

Core or General Elective

Economics Elective

Advanced Economics Elective

General Elective

#### Spring Semester

Core or General Elective

Advanced Economics Elective

Economics Capstone Research

General Elective

China is once again a major force in the world. Beyond the scope of conventional area studies, the innovative interdisciplinary major in Global China Studies allows students to cultivate up-to-date knowledge and critical skills about China. It aims at deepening their understanding of China's interactions with the wider world as well as comprehend the trends within China, at individual, societal, state, and global levels, and in the context of socio-economic, religious, cultural, and political transformations.

The Global China Studies major offers two options. Students may opt to take the track that requires an extensive study of China in a global setting through the completion of an interdisciplinary curriculum without the need for additional Chinese language courses. They could also choose the advanced track option, which trains students to acquire a higher level of Chinese proficiency in addition to developing focused research skills needed for postgraduate professional and academic pursuits. In either case, majors in Global China Studies will graduate with the capacity to become qualified practitioners and thinkers of a changing China in the world.

### **GCS Major - Total Major Credits: 36**

This track is for students interested in developing in-depth knowledge about China through the study of Chinese history, society, literature, arts, and politics in a global setting with an emphasis on innovative research methods. Students must take a wide range of courses on China and are encouraged to complete a minor of their choosing. This track is recommended for students who plan to seek employment in the private sector, research institutions, or admission into graduate school.

#### **Required Courses: 20 credits**

#### **GCHN-SHU 110 The Concept of China (4 credits)**

#### **China and the World: Choose Two (8 credits)**

Courses in this category focus on China in a broader global setting, concentrating on its contacts, historical and/or contemporary, with the outside world. The aim is to examine the dynamics of Chinese history, politics, economy, and culture as interconnected and integrated with various regions of the world. Select two of the following:

- |                |   |
|----------------|---|
| • GCHN-SHU 164 | The History of the Silk Road(s) (Originally: The Stuff of Legends: The Many Meanings of the Early Silk Road(s))         |
| • GCHN-SHU 252 | 20th-Century East Asian-American Relations  |
| • GCHN-SHU 264 | Chinese Migrant and Diasporic Network   |
| • HIST-SHU 250 | Tianxia: Traditional China and the World (Originally: China at the Center? An Exploration of Chinese Foreign Relations) |
| • HIST-SHU 312 | China Encounters the World  |
| • HIST-SHU 313 | China Goes Global: How China and the World Changed Each Other   |
| • SCA-SHU 9634 | Global Connections: Shanghai  |
| • SOCS-SHU 341 | Cross-Strait Relations  |
| • TBD          | China and International Relations Theory  |
| • TBD          | Warfare and Modern China  |

#### **Two-semester capstone course (8 credits)**

Fall Semester: Methodologies in China Studies; Spring Semester: Research Project Seminar.

The first semester of this two-semester capstone course will focus on examining the importance and shortcomings of Chinese primary sources and data, familiarizing with and learning how to access and use key archives, museums, libraries, research tools, databases, and digital websites, and analyzing some of the pivotal books and articles on China. Students will also draft a research proposal, with a preliminary bibliography, and identify a faculty mentor for the second semester of the capstone course. During the second semester, students will work primarily with their respective mentors, but are required to also participate and make presentations at a weekly research seminar. Those opting for GCS major do not have to demonstrate competency in reading and analyzing Chinese language sources.

#### **Global China Studies Electives (16 Credits)**

Choose four courses from the list, with at least one course from each of the following three categories:

##### **1.Chinese History, Society, and Culture**

Courses in this category focus on the examination of aspects and periods of Chinese history, social values and conditions, and cultural traditions and practices.

Sample courses:

- |                 |   |
|-----------------|---|
| • CCSF-SHU 122  | Traditional Chinese Wisdom and Its Transformation in Modern Times         |
| • GCHN-SHU 165  | The Islamic World and China   |
| • GCHN-SHU 224  | Chinese Maritime History  |
| • GCHN-SHU 231  | Social and Cultural Debates in 20th Century China                         |
| • HIST-SHU 153  | History of Modern China   |
| • HIST-SHU 379  | The Social Life of Things: Functions of Material Culture in Ancient China |
| • RELS-SHU 9270 | Religion and Society in China   |

2. Chinese Media, Arts, and Literature

Courses in this category examine the artistic and literary productions by the Chinese in and outside China, as well as the trends in print, audio-visual, digital and social media.

Sample courses:

- |                      |  |
|----------------------|--|
| • CCCF-SHU 133       | Journalism and Society in China                              |
| • GCHN-SHU 222       | History of Chinese Cinemas                                   |
| • GCHN-SHU 230       | Culture and Media in Urban China                             |
| • GCHN-SHU 263       | Voices from the Margin: Modern Chinese and Sinophone Studies |
| • HUMN-SHU 366 (266) | Shanghai Stories   |
| • MCC-SHU 9451       | Global Media Seminar: China                                  |

3. The Politics, Economy, and Environment of China

Courses in this category examine the contemporary political, economic, legal, and environmental theories, policies, and practices in the People's Republic of China.

Sample courses:

- |                                |   |
|--------------------------------|---|
| • BUSF-SHU 188 (CHIN-SHU 429)  | Chinese Business and Financial: A Bilingual Introduction                          |
| • BUSF-SHU 288                 | Doing Business in China   |
| • CCSF-SHU 123                 | Contemporary Chinese Political Thought  |
| • ECON-SHU 238                 | History of Modern Economic Growth: Exploring China From a Comparative Perspective |
| • GCHN-SHU 240                 | Modern Chinese Governance   |
| • GCHN-SHU 243                 | Chinese Environmental Studies   |
| • GCHN-SHU 342 (BPEP-SHU 9042) | Political Economy of East Asia  |
| • LWSO-SHU 9251                | Law Culture and Politics in China   |
| • SOCS-SHU 450                 | Chinese Environmental Governance  |

Internship Option: Engaging Chinese society, culture, and economics, students will participate in a semester-long internship in Shanghai. In consultation with the faculty advisor, each student will find and then experience a relevant unpaid internship reflecting the interests of the student. Across a variety of sectors from private companies to non-governmental organizations, these internships will offer an opportunity to directly interact and utilize previous Global China Studies work plus Chinese language skills. Immersion in the internship will allow students to gain a deeper understanding of China and, specifically, the unique qualities of a dynamic, expanding Shanghai.

Study Abroad: Students enrolled in this track may study abroad for a maximum of two semesters.

**Global China Studies minor**

Four classes from the required and elective list of Global China Studies courses, of which at least one must be from the required list. Students may take up to two advanced or post-advanced language courses in fulfillment of this minor.

# Global China Studies

## SAMPLE SCHEDULE 1

### Year 1

#### Fall Semester

Global Perspectives on Society	Core class	Core class	English, Chinese, Core, or General Elective
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#### Spring Semester

Writing as Inquiry	Core class	The Concept of China	English, Chinese, Core, or General Elective
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### Year 2

#### Fall Semester

Perspectives on the Humanities	China and the World	GCS Elective	Core, Chinese or General Elective
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#### Spring Semester

China and the World	GCS Elective	Core class	Core, Chinese or General Elective
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### Year 3

#### Fall Semester

GCS Elective	General Elective	General Elective	General Elective
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#### Spring Semester

GCS Elective	General Elective	General Elective	General Elective
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### Year 4

#### Fall Semester

General Elective	GCS Capstone	General Elective	General Elective
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#### Spring Semester

General Elective	GCS Capstone	General Elective	General Elective
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# Global China Studies

## SAMPLE SCHEDULE 2

### Year 1

#### Fall Semester

Global Perspectives on Society	Core class	Core class	English, Chinese, Core, or General Elective
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#### Spring Semester

Writing as Inquiry	Core class	Core or General Elective	English, Chinese, Core, or General Elective
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### Year 2

#### Fall Semester

Perspectives on the Humanities	The Concept of China	China and the World	Core or Chinese
--------------------------------	----------------------	---------------------	-----------------

#### Spring Semester

China and the World	GCS Elective	Core class	Core or Chinese
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### Year 3

#### Fall Semester

GCS Elective	GCS Elective	General Elective	General Elective
--------------	--------------	------------------	------------------

#### Spring Semester

GCS Elective	General Elective	General Elective	General Elective
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### Year 4

#### Fall Semester

General Elective	GCS Capstone	General Elective	General Elective
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#### Spring Semester

General Elective	GCS Capstone	General Elective	General Elective
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## **Advanced GCS Track - Total Major Credits: 40**

This advanced track is for students interested in combining advanced training in the Chinese language with a deep knowledge of Chinese history, society, literature, arts, and politics in a global setting, as well as with an exploration of innovative research methodologies. It is recommended for students who plan to seek admission into graduate school, or employment in research institutions, governmental and non-governmental organizations in China or elsewhere that focus on China-related issues.

### **Required Courses: 28 Credits**

#### **GCHN-SHU 110 The Concept of China (4 credits)**

##### **China and the World (4 Credits)**

Courses in this category focus on China in a broader global setting, focusing on its contacts (historical and/or contemporary) with the outside world. The aim is to examine the dynamics of Chinese history, politics, economy, and culture as interconnected and integrated with various regions of the world. Select one of the following:

- GCHN-SHU 164                      The History of the Silk Road(s) (Originally: The Stuff of Legends: The Many Meanings of the Early Silk Road(s))
- GCHN-SHU 252                      20th-Century East Asian-American Relations
- GCHN-SHU 264                      Chinese Migrant and Diasporic Networks
- HIST-SHU 250                      Tianxia: Traditional China and the World (Originally: China at the Center? An Exploration of Chinese Foreign Relations)
- HIST-SHU 312                      China Encounters the World
- HIST-SHU 313                      China Goes Global: How China and the World Changed Each Other
- SCA-SHU 9634                      Global Connections: Shanghai
- SOCS-SHU 341                      Cross-Strait Relations
- TBD                                      China and International Relations Theory
- TBD                                      Warfare and Modern China

##### **Language courses (8 Credits)**

Non-Native Chinese Speakers: Advanced Chinese I & II, with Advanced II as a "Reading Newspaper" course

Native Chinese speakers must take the Reading Newspaper course and an additional elective from the list below

### Chinese for Advanced Undergraduate Research (4 Credits)

This aim of these courses is to expand Chinese language research skills. Students will read, analyze, and use Chinese language sources to write, in English, response reports and research paper(s). The courses under this category will be taught in English. Select one of the following:

- GCHN-SHU 283 Reading and Viewing Modern China
- TBD Classical Chinese: Chinese Records on the Foreign Peoples
- TBD Chinese Social Media
- TBD Sociological Texts in Chinese

### Two-semester capstone course (8 Credits)

Fall Semester: Methodologies in China Studies; Spring Semester: Research Project Seminar.

The first semester of this two-semester capstone course will focus on examining the importance and shortcomings of Chinese primary sources and data, familiarizing with and learning how to access and use key archives, museums, libraries, research tools, databases, and digital websites, and analyzing some of the pivotal books and articles on China. Students will also draft a research proposal, with a preliminary bibliography, and identify a faculty mentor for the second semester of the capstone course. During the second semester, students will work primarily with their respective mentors, but are required to also participate and make presentations at a weekly research seminar. Those opting for Advanced GCS major must demonstrate competency in reading and analyzing Chinese language sources.

### Global China Studies Electives (12 Credits): Take one course each from the following three categories:

#### Chinese History, Society, and Culture

Courses in this category focus on the examination of aspects and periods of Chinese history, social values and conditions, and cultural traditions and practices.

#### Sample courses:

- |                 |   |
|-----------------|---|
| • CCSF-SHU 122  | Traditional Chinese Wisdom and Its Transformation in Modern Times         |
| • GCHN-SHU 165  | The Islamic World and China   |
| • GCHN-SHU 224  | Chinese Maritime History  |
| • GCHN-SHU 231  | Social and Cultural Debates in 20th Century China                         |
| • HIST-SHU 153  | History of Modern China   |
| • HIST-SHU 379  | The Social Life of Things: Functions of Material Culture in Ancient China |
| • RELS-SHU 9270 | Religion and Society in China   |

### Chinese Media, Arts, and Literature

Courses in this category examine the artistic and literary productions by the Chinese in and outside China, as well as the trends in print, audio-visual, digital and social media. Sample courses:

- CCCF-SHU 133 Journalism and Society in China
- GCHN-SHU 222 History of Chinese Cinemas
- GCHN-SHU 230 Culture and Media in Urban China
- GCHN-SHU 263 Voices from the Margin: Modern Chinese and Sinophone Studies
- HUMN-SHU 366 (266) Shanghai Stories
- MCC-SHU 9451 Global Media Seminar: China

### The Politics, Economy, and Environment of China

Courses in this category examine the contemporary political, economic, legal, and environmental theories, policies, and practices in the People's Republic of China. Sample courses:

- BUSF-SHU 188 (CHIN-SHU 429) Chinese Business and Financial: A Bilingual Introduction
- BUSF-SHU 288 Doing Business in China
- CCSF-SHU 123 Contemporary Chinese Political Thought
- ECON-SHU 238 History of Modern Economic Growth: Exploring China From a Comparative Perspective
- GCHN-SHU 240 Modern Chinese Governance
- GCHN-SHU 342 (BPEP-SHU 9042) Political Economy of East Asia
- GCHN-SHU 243 Chinese Environmental Studies
- LWSO-SHU 9251 Law Culture and Politics in China
- SOCS-SHU 450 Chinese Environmental Governance

**Internship Option:** Engaging Chinese society, culture, and economics, students will participate in a semester-long internship in Shanghai. In consultation with the faculty advisor, each student will find and then experience a relevant unpaid internship reflecting the interests of the student. Across a variety of sectors from private companies to non-governmental organizations, these internships will offer an opportunity to directly interact and utilize previous Global China Studies work plus Chinese language skills. Immersion in the internship will allow students to gain a deeper understanding of China and, specifically, the unique qualities of a dynamic, expanding Shanghai.

**Study Abroad:** Students enrolled in the Advanced Global China Studies track should spend no more than one semester abroad.

### Global China Studies minor

Four classes in Global China Studies, one of which should be either the Concept of China course or a course listed under the "China and the World" category. Students may take up to two advanced or post-advanced language courses in fulfillment of this minor.

## SAMPLE SCHEDULE 1

(For students who have advanced Chinese language skills and start to take Advanced Chinese I course in their first semester of second year.)

### Year 1

#### Fall Semester

Global Perspectives on Society	Core class	Core class	English, Chinese, Core, or General Elective
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#### Spring Semester

Writing as Inquiry	Core class	The Concept of China	English, Chinese, Core, or General Elective
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### Year 2

#### Fall Semester

Perspectives on the Humanities	China and the World	Advanced Chinese Course 1	Core, Chinese or General Elective
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#### Spring Semester

GCS Elective	Advanced Chinese course 2	Core class	Core, Chinese or General Elective
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### Year 3

#### Fall Semester

GCS Elective	General Elective	General Elective	General Elective
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#### Spring Semester

GCS Elective	Chinese for Advanced Undergraduate Research	General Elective	General Elective
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### Year 4

#### Fall Semester

General Elective	GCS Capstone	General Elective	General Elective
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#### Spring Semester

GCS Capstone	General Elective	General Elective	General Elective
--------------	------------------	------------------	------------------

## SAMPLE SCHEDULE 2

(For students who start to take Advanced Chinese I in their first semester of third year)

### Year 1

#### Fall Semester

Global Perspectives on Society	Core class	Core class	English, Chinese, Core, or General Elective
--------------------------------	------------	------------	---

#### Spring Semester

Writing as Inquiry	Core class	Core or General Elective	English, Chinese, Core, or General Elective
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### Year 2

#### Fall Semester

Perspectives on the Humanities	The Concept of China	Core or General Elective	Core or Chinese
--------------------------------	----------------------	--------------------------	-----------------

#### Spring Semester

China and the World	GCS Elective	Core class	Core or Chinese
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### Year 3

#### Fall Semester

General Elective	Advanced Chinese Language Course 1	GCS Elective	General Elective
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#### Spring Semester

GCS Elective	Advanced Chinese Language Course 2	General Elective	General Elective
--------------	------------------------------------	------------------	------------------

### Year 4

#### Fall Semester

GCS Capstone	Chinese for Advanced Undergraduate Research	General Elective	General Elective
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#### Spring Semester

GCS Capstone	General Elective	General Elective	General Elective
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# HUMANITIES

The Humanities major combines a rigorous general education in the humanities with a concentrated focus on a particular discipline or theme. The requirements for the major are designed to allow students to construct a program of study that fits their own intellectual interests.

The curriculum is cross-cultural in foundation and reflects the interdisciplinary strength of our faculty in areas including history, philosophy, literature, religion, film and media, and cultural studies. Humanities students engage with Asian, African, European, American, and Oceanian cultures and intellectual traditions. They learn to employ multiple disciplinary perspectives, and to engage with a wide range of different sources.

Rather than developing career-specific skills, the Humanities major provides students with very general skills in reading, writing, interpretation, analysis and argument that are both highly valuable and highly transferable. Humanities majors graduate with the capacity to critically engage with our globalizing world, to contribute to contemporary scholarship, and to pursue a wide range of careers.

In the Humanities core courses, students acquire a set of methods for humanistic inquiry. Students then develop an area of thematic or disciplinary focus by taking courses in Shanghai and other NYU sites in consultation with faculty advisors. In the senior year, they take the Capstone Course and produce a final thesis to showcase their intellectual development.

## REQUIREMENTS FOR THE MAJOR

Not every course listed is taught every semester, and in any given semester other courses may be offered that fulfill this requirement. Requirements may be met through equivalent courses in the global network with prior approval. One course cannot fulfill 2 different requirements within the Humanities major.

### Core Courses - 8 Credits

The core courses are multidisciplinary in nature. They introduce a set of methodological approaches and highlight the cross-fertilization between disciplines. They must be taken in Shanghai when offered.

### Critical Concepts - 4 credits

#### Sample Courses

- |                |   |
|----------------|---|
| • GCHN-SHU 110 | The Concept of China                        |
| • HIST-SHU 232 | Moments of Europe                           |
| • HIST-SHU 303 | Histories and Politics of Noise             |
| • HUMN-SHU 240 | Gender, Sexuality, and Culture              |
| • PHIL-SHU 40  | Ethics                                      |
| • PHIL-SHU 80  | Philosophy of Mind                          |
| • PHIL-SHU 90  | Philosophy of Science                       |
| • PHIL-SHU 130 | Philosophy of Technology: Thinking Machines |
| • PHIL-SHU 150 | Central Problems in Philosophy              |

### Digital Approaches - 4 credits

#### Sample Courses

- |                    |   |
|--------------------|---|
| • GCHN-SHU 210     | Topics in Digital Humanities: The Cultivated City                             |
| • HIST-SHU 239     | New York: History of the City   |
| • INTM-SHU 184     | Communities and Net Literature (Exploring Net Literature)                     |
| • INTM-SHU 193     | Chinese Cyberculture  |
| • INTM-SHU 225     | Media and Participation   |
| • INTM-SHU 249     | Street Life & Street Food in the 21st Century City                            |
| • INTM-SHU 250     | Special Topics in Digital Humanities: Street Food and Urban Farming           |
| • INTM-SHU 265-001 | Topics in Digital Humanities: Acoustic Ethnography of the Yangtze River Delta |
| • INTM-SHU 295-001 | Topics Seminar: Digital Media and Culture                                     |
| • INTM-SHU 295-002 | Topics Seminar: From Cyborgs to Siri: Gender, Tech & Media                    |
| • PHIL-SHU 130     | Philosophy of Technology: Thinking Machines                                   |
| • SCA-SHU 9634     | Global Connections: China   |

### Survey Courses - 8 Credits

These courses introduce students to the foundations of an area of study and may be taken at all global sites. A survey course provides a broad overview of a topic or a field of knowledge.

#### Sample Courses

- |                                  |   |
|----------------------------------|---|
| • CCCF-SHU 128<br>(ART-SHU 9077) | Contemporary Art & New Media                                      |
| • CIII-SHU 103                   | Cultural Foundations of Liberal Studies                           |
| • CCSF-SHU 122                   | Traditional Chinese Wisdom and Its Transformation in Modern Times |
| • CRWR-SHU 159<br>(WRIT-SHU 159) | Introduction to Creative Writing                                  |
| • CRWR-SHU 200A                  | Seminar Topics: Speculative Fictions                              |
| • CRWR-SHU 220                   | Intermediate Creative Writing Craft Course                        |
| • CRWR-SHU 221                   | Intermediate Poetry Workshop                                      |
| • GCHN-SHU 110                   | The Concept of China  |
| • GCHN-SHU 164                   | The History of the Silk Road                                      |
| • GCHN-SHU 210                   | Topics in Digital Humanities: The Cultivated City                 |
| • HIST-SHU 110                   | U.S. History Through Literature and Film                          |
| • HIST-SHU 120                   | The Mongol Conquest in World History                              |



- HIST-SHU 126 World History: Part I
- HIST-SHU 127 World History: Part I
- HIST-SHU 153 History of Modern China Since 1840
- HIST-SHU 156 Europe Since 1945
- HUMN-SHU 229 Masters of Asian Cinema  
(CCCF-SHU 129)
- LIT-SHU 226 History of Chinese Cinemas  
(CCCF-SHU 121)
- LIT-SHU 246 Introduction to Gender and Feminism in African Literature
- PHIL-SHU 105 Introduction to Chinese Philosophy
- PHIL-SHU 70 Logic  
(HUMN-SHU 204)
- PHIL-SHU 141 The Philosophy of Logic and Language
- PHIL-SHU 150 Central Problems in Philosophy
- SIII-SHU 103 Social Foundations for Liberal Studies

### Topic Courses - 24 Credits

Students take a total of 6 topic courses. These courses take an in-depth look at a specific topic and may be taken at all global sites. 3 or more of these courses should form a degree of thematic or disciplinary coherence and serve as the basis of the Capstone thesis.

#### Sample Courses

- CCSF-SHU 124 Growing Shanghai, Shrinking Detroit
- GCHN-SHU 200-001 Topics in Global China Studies: Changing Status of Women in China
- GCHN-SHU 200-002 Topics in Global China Studies: Politics of History and Memory in China
- GCHN-SHU 224 Chinese Maritime History
- GCHN-SHU 252 20th-Century East Asia-U.S. Relations
- GCHN-SHU 263 Voices from the Margin: Modern Chinese and Sinophone Writers
- GCHN-SHU 264 Chinese Migrant and Diasporic Networks
- GCHN-SHU 283 Reading and Viewing Modern China
- HIST-SHU 208 War and Peace: Europe Since 1900
- HIST-SHU 225 Global Space Age
- HIST-SHU 312 China Encounters the World
- HIST-SHU 209 Witches, Magic and the Witch Hunts in the Atlantic World, 1400-1700
- HIST-SHU 210 History of Death, Dying, and Grief: The Impact of Modern War
- HIST-SHU 226 5000 Years of Chinese History: Fact or Fiction?
- HIST-SHU 231 WWII
- HIST-SHU 250 China at the Center? An Exploration of Chinese Foreign Relations
- HIST-SHU 302 The History of Water
- HIST-SHU 303 Histories and Politics of Noise
- HIST-SHU 313 China Goes Global: How China and the World Changed Each Other
- HIST-SHU 329 Futures of the Twentieth Century
- HIST-SHU 351 From Human Sacrifices to Illicit Sex at a Funeral: A History of Violence and Crime in Ancient China
- HIST-SHU 379 The Social Life of Things: Functions of Material Culture in Ancient Chinese Society and Beyond
- HUMN-SHU 200-001 Topics in Humanities: French Cinema: The Birth of the Seventh Art
- HUMN-SHU 225 Asia-Pacific History in the 20th Century
- HUMN-SHU 230 Topics in the Humanities: Aesthetics and Literature
- HUMN-SHU 230-001 Topics in the Humanities: European Modernities and the Global Avant-Garde
- HUMN-SHU 230-002 Topics in the Humanities: Introduction to Asian American Studies
- HUMN-SHU 231 Contemporary Art and Theory in North America and Europe
- HUMN-SHU 341 Semiotics of Performance
- HUMN-SHU 366 Shanghai Stories
- HUMN-SHU 997 Humanities Independent Study
- LIT-SHU 225 Global Shakespeare

• LIT-SHU 245	Literature and Science in the Renaissance
• PHIL-SHU 90	Philosophy of Science
• PHIL-SHU 130	Philosophy of Technology
• PHIL-SHU 165	Indian Buddhist Philosophy
• PHIL-SHU 200	Topics in Epistemology: Memory
• PHIL-SHU 200-001	Topics in Epistemology: The Pragmatic Turn in Epistemology
• PHIL-SHU 40	Ethics
• PHIL-SHU 76	Epistemology
• PHIL-SHU 80	Philosophy of Mind
• PHIL-SHU 91	Philosophy of Biology
• RELS-SHU 9270	Religion and Society in China: Gods, Ghosts, Buddhas and Ancestors
• SOCS-SHU 229	Capitalism, Socialism, Communism: Theory and Practice
• SOCS-SHU 272	The U.S. Constitution: Is It Relevant to China?
• SOCS-SHU 275	U.S. China Relations
• SOCS-SHU 300C	Topics in Law & Politics: Law and Land in the US and China
• SOCS-SHU 339	Comparative Revolutions
• SOCS-SHU 341	Cross-Strait Relations
• WRIT-SHU 219	Intermediate Fiction Workshop

### **Capstone Course - 4 Credits**

Replace by the text on the paper

### **Humanities Minor**

Four classes from the required and elective list of Humanities major courses.

### **History Minor**

Four classes from the required and elective list of Humanities major History courses.

### **Literature Minor**

Four classes from the required and elective list of Humanities major Literature courses.

### **Philosophy minor**

Four classes from the required and elective list of Humanities major Philosophy courses.

# HUMANITIES

## SAMPLE SCHEDULE 1

This is just one example of how a student could organize their courses if pursuing a Humanities major. It assumes a student begins taking Humanities major courses in the first year. Sample Schedule 2 offers an alternate plan that begins in the second year. Students may propose alternative schedules to their advisors as well.

### Year 1

#### Fall Semester

Global Perspectives on Society	Core Class	Core class	English, Chinese, Core or General Elective
--------------------------------	------------	------------	--

#### Spring Semester

Writing as Inquiry	Digital Approaches	Core class or General Elective	English, Chinese, Core or General Elective
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### Year 2

#### Fall Semester

Perspectives on the Humanities	Humanities Survey	Critical Concepts	Core, General Elective or Chinese
--------------------------------	-------------------	-------------------	-----------------------------------

#### Spring Semester

Core class	Humanities Survey	Humanities Topic	Core, General Elective or Chinese
------------	-------------------	------------------	-----------------------------------

### Year 3

#### Fall Semester

Core or General Elective	Humanities Topic	Humanities Topic	General Elective
--------------------------	------------------	------------------	------------------

#### Spring Semester

Humanities Topic	Humanities Topic	General Elective	General Elective
------------------	------------------	------------------	------------------

### Year 4

#### Fall Semester

Humanities Topic	General Elective	General Elective	General Elective
------------------	------------------	------------------	------------------

#### Spring Semester

Humanities Capstone	General Elective	General Elective	General Elective
---------------------	------------------	------------------	------------------

# HUMANITIES

## SAMPLE SCHEDULE 2

### Year 1

#### Fall Semester

Global Perspectives on Society	Core class	Core class	English, Chinese General Elective
--------------------------------	------------	------------	-----------------------------------

#### Spring Semester

Writing as Inquiry	Core class	Core class or General Elective	English, Chinese, or General Elective
--------------------	------------	--------------------------------	---------------------------------------

### Year 2

#### Fall Semester

Perspectives on the Humanities	Critical Concepts	Humanities Survey	Core class, General Elective or Chinese
--------------------------------	-------------------	-------------------	---

#### Spring Semester

Core class	Digital Approaches	Humanities Survey	Core class, General Elective, or Chinese
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### Year 3

#### Fall Semester

Humanities Topic	Humanities Topic	Core or General Elective	General Elective
------------------	------------------	--------------------------	------------------

#### Spring Semester

Humanities Topic	Humanities Topic	General Elective	General Elective
------------------	------------------	------------------	------------------

### Year 4

#### Fall Semester

Humanities Topic	Humanities Topic	General Elective	General Elective
------------------	------------------	------------------	------------------

#### Spring Semester

Humanities Capstone	General Elective	General Elective	General Elective
---------------------	------------------	------------------	------------------

Interactive Media Arts (IMA) encourages students to explore the expressive possibilities brought about by emerging forms of technology, media and communication. Our students are challenged to create interactive systems that connect people, facilitate participation, convey information, communicate stories, enhance experiences, and otherwise augment and improve society. This may involve the creation of digital media, the development of software, the production of electronic devices, the fabrication of material objects, the construction of physical and virtual spaces, or the fearless investigation of the recently possible. Our curriculum, community and active learning environment facilitate student acquisition of both conceptual insights and practical skills, and encourages our students to explore their personal interests in an attempt to find imaginative human-centered solutions to design challenges found in everyday life and the world around us.

IMA is the first undergraduate program organized in collaboration with the Interactive Telecommunications Program (ITP), a top-ranked graduate program at Tisch School of the Arts at NYU in New York. In designing the IMA curriculum, we kept ITP's focus on the intersection of emerging media and humanistic values, but designed IMA to work within the undergraduate Liberal Arts curriculum present at NYU Shanghai. All IMA majors and minors take two foundation courses, Interaction Lab and Communications Lab. Interaction Lab introduces students to the fields of Interaction Design, Physical Computing and Digital Fabrication, and provides students with foundational skills in computer programming and electronics prototyping. Communications Lab introduces students to digital media, and asks them to produce a series of interactive multimedia projects for the Web using HTML, CSS and JavaScript. Students then choose from a range of elective categories across the disciplines of art, design, science, computation, media and business with great freedom to make their selections. Majors finish with a Capstone Studio course by synthesizing methods of research and practice to produce an interactive project and related essay.

## REQUIREMENTS FOR THE MAJOR

**Note: Not every course listed is taught every semester, and in any given semester other courses may be offered that fulfill a particular requirement. Requirements may be met through equivalent courses in the global network with prior approval.**

When studying away, IMA majors may apply up to 12 credits, and IMA minors may apply up to 4 credits, obtained outside of the IMA Program in Shanghai towards the major

### Foundations - 8 credits

Students may choose any two of the following courses:

- |                |                    |
|----------------|--------------------|
| • INTM-SHU 101 | Interaction Lab    |
| • INTM-SHU 110 | Application Lab    |
| • INTM-SHU 120 | Communications Lab |
| • INTM-SHU 130 | Information Lab    |

### Distribution Electives - 24 credits

Students must complete distribution elective courses in the following required categories: Art & Design, Computation & Data, Electronics & Physical Computing, and Seminar. Courses can be 2, 3, or 4 credits, however only a 3 or 4 credit course can satisfy a required category by itself. A 2 credit course must be combined with another 2, 3, or 4 credit course under the same category to satisfy a category requirement.

### Art & Design

#### *Sample Courses*

- |                |                               |
|----------------|-------------------------------|
| • INTM-SHU 214 | User Experience Design        |
| • INTM-SHU 238 | Toy Design and Prototyping    |
| • INTM-SHU 239 | Digital Fabrication           |
| • INTM-SHU 248 | Intro to Assistive Technology |
| • BUSF-SHU 211 | Design Thinking               |

### Computation & Data\*

#### *Sample Courses*

- |                |   |
|----------------|---|
| • INTM-SHU 229 | Topics in Computation & Data: Intro to Generative Systems |
| • INTM-SHU 230 | Topics in Computation & Data: Reactive Interfaces         |
| • INTM-SHU 230 | Nature of Code  |
| • INTM-SHU 231 | Developing Web  |
| • INTM-SHU 288 | Kinetic Interfaces  |

\* Students may count a single Computer Science elective either toward the Computation & Data category requirement or the overall distribution elective requirements if they also complete at least one 2 credit IMA elective in this category.

### Electronics & Physical Computing\*\*

#### *Sample Courses*

- |                 |  |
|-----------------|--|
| • INTM-SHU 165  | Talking Fabrics  |
| • INTM-SHU 222  | Introduction to Robotics   |
| • INTM-SHU 245  | Topics in Electronics & Physical Computing: Electromagnetic Creativity |
| • INTM-SHU 245A | Topics in Electronics & Physical Computing: Inflatables                |
| • INTM-SHU 260  | Topics in Electronics & Physical Computing: Working With Electrons     |
| •               |  |

\*\* This elective category was previously called *Experimental Interfaces & Physical Computing*

### **Seminar**

#### *Sample Courses*

- |   |                  |  |
|---|------------------|--|
| • | INTM-SHU 193     | Chinese Cyberculture                                       |
| • | INTM-SHU 295-001 | Seminar Topics: Digital Media & Culture                    |
| • | INTM-SHU 295-002 | Seminar Topics: From Cyborgs to Siri: Gender, Tech & Media |
| • | PHIL-SHU 130     | Philosophy of Technology: Thinking Machines                |
| • | GCHN-SHU 210     | The Cultivated City  |

*Remaining distribution elective requirements may be satisfied either by taking additional courses from the required categories above, or by taking courses from any of the following optional categories.*

### **Business of Emerging Media**

#### *Sample Courses*

- |   |                  |                                 |
|---|------------------|---------------------------------|
| • | INTM-SHU 252     | The Minimum Viable Product      |
| • | INTM-SHU 255     | Shenzhen Style                  |
| • | INTM-SHU 255-002 | Programmable Trust: Blockchains |

### **Digital Humanities & Social Sciences**

#### *Sample Courses*

- |   |              |  |
|---|--------------|--|
| • | INTM-SHU 249 | Street Life & Street Food in the 21st Century City   |
| • | INTM-SHU 265 | Topics in Digital Humanities & Social Sciences:<br>Acoustic Ethnography of the Yangtze River Delta |
| • | CRWR-SHU 245 | Speculative Fictions   |

### **New Media & Entertainment**

#### *Sample Courses*

- |   |               |   |
|---|---------------|---|
| • | INTM-SHU 190  | Collective Methods                            |
| • | INTM-SHU 221  | Creating Immersive Worlds                     |
| • | INTM-SHU 280D | Topics in New Media & Entertainment: Realtime |
| • |               | Audiovisual Performance Systems (RAPS)        |

### **Capstone - 4 credits**

- |   |              |                 |
|---|--------------|-----------------|
| • | INTM-SHU 400 | Capstone Studio |
|---|--------------|-----------------|

### **Interactive Media Arts Minor**

- |   |              |   |
|---|--------------|---|
| • | INTM-SHU 101 | Interaction Lab                               |
| • | INTM-SHU 120 | Communications Lab                            |
| • | 7-8 credits  | from the Interactive Media Arts Elective List |

# INTERACTIVE MEDIA ARTS

## SAMPLE SCHEDULE 1

This is just one example of how a student could organize their courses if pursuing a IMA major. It assumes a student begins taking IMA major courses in the first year. Sample Schedule 2 offers an alternate plan that begins in the second year. Students may propose alternative schedules to their advisors as well.

### Year 1

#### Fall Semester

Global Perspectives on Society	Core class	Core class	English, Chinese, core or General Elective
--------------------------------	------------	------------	--

#### Spring Semester

Writing as Inquiry	Core Class	Interaction Lab or Application Lab or Communications Lab or Information Lab	English, Chinese, core or General Elective
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### Year 2

#### Fall Semester

Perspectives on the Humanities	Interaction Lab or Application Lab or Communications Lab or Information Lab	Interactive Media Elective	Core, Chinese or General Elective
--------------------------------	---	----------------------------	-----------------------------------

#### Spring Semester

Core class	Interactive Media Elective	Interactive Media Elective	Core, Chinese or General Elective
------------	----------------------------	----------------------------	-----------------------------------

### Year 3

#### Fall Semester

Interactive Media Elective	Core or General Elective	General Elective	General Elective
----------------------------	--------------------------	------------------	------------------

#### Spring Semester

Interactive Media Elective	General Elective	General Elective	General Elective
----------------------------	------------------	------------------	------------------

### Year 4

#### Fall Semester

Interactive Media Elective	General Elective	General Elective	General Elective
----------------------------	------------------	------------------	------------------

#### Spring Semester

Senior Thesis Project	General Elective	General Elective	General Elective
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## SAMPLE SCHEDULE 2

### Year 1

#### Fall Semester

Global Perspectives on Society	Core class	Core class	English, Chinese, Core or General Elective
--------------------------------	------------	------------	--

#### Spring Semester

Writing as Inquiry	Core Class or General Elective	Core class	English, Chinese, core or General Elective
--------------------	--------------------------------	------------	--

### Year 2

#### Fall Semester

Perspectives on the Humanities	Interaction Lab or Communications Lab	Interactive Media Elective	Core, Chinese or General Elective
--------------------------------	---------------------------------------	----------------------------	-----------------------------------

#### Spring Semester

Core class	Interaction Lab or Communications Lab	Interactive Media Elective	Core, Chinese or General Elective
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### Year 3

#### Fall Semester

Interactive Media Elective	Interactive Media Elective	Core or General Elective	General Elective
----------------------------	----------------------------	--------------------------	------------------

#### Spring Semester

Interactive Media Elective	General Elective	General Elective	General Elective
----------------------------	------------------	------------------	------------------

### Year 4

#### Fall Semester

Interactive Media Elective	General Elective	General Elective	General Elective
----------------------------	------------------	------------------	------------------

#### Spring Semester

Senior Thesis Project	General Elective	General Elective	General Elective
-----------------------	------------------	------------------	------------------

Emerging media is a vital element of the modern business world, in for-profit, social impact, and non-profit ventures alike. Startups as well as established organizations connect with audiences, engage customers, collaborate, and compete with one another through interactive media. Websites and social media, mobile devices and apps, video games and immersive experiences, all present opportunities for new business models that challenge organizations and individuals to embrace change, spark innovation, and survive disruption across markets. The present business climate demands that recent graduates come equipped with broad interdisciplinary knowledge and skills, and especially the ability to thoughtfully combine both quantitative and humanistic understanding. Students of Interactive Media + Business (IMB), will be challenged to imagine and implement interactive products and services that fearlessly investigate the recently possible in media, technology, and communication. IMB majors are also expected to think holistically about the impact of their work in society as well as the business value, whether it involve software or hardware, virtual or physical, product or experiment. Through coursework that requires the hands-on application of traditional as well as emerging theory and practice across multiple disciplines, IMB majors will graduate well prepared for stimulating careers and leadership roles in diverse organizations across the globe.

Students of IMB will begin their education in one of the world's business and media capitals, Shanghai, in one of the most dynamic economies in the world, China. IMB majors and minors will take a unique blend of media and business foundation courses, including Application Lab, which introduces modern business theory and practice, user experience design and user testing, as well as mobile software and hardware prototyping. For their second media foundation, IMB students choose between Interaction Lab, which covers interaction design, electronics, computation, and digital fabrication, or Communications Lab, which covers digital media production methods, including imaging, audio, video, and Web development. Business foundations include Economics of Global Business, which prepares students with a systematic understanding of the international business environment, including macroeconomic theories, and the roles of international trade and finance. The second Business foundation, Principles of Financial Accounting, prepares students to evaluate the current condition of a business, and assess its likely future prospects. Students also choose from a range of flexible core and elective categories across the disciplines of business and media, art and design, the humanities, social and physical sciences, as well as computation and data. Students also have unique opportunities to pursue coursework and gain practical experience in other global business and media capitals, especially New York, Tel Aviv, London, and Berlin. Majors finish with a Capstone Studio course by synthesizing methods of research and practice to produce an interactive project and business plan.

## REQUIREMENTS FOR THE MAJOR

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Note: Not every course listed is taught every semester, and in any given semester other courses may be offered that fulfill a particular requirement. Requirements may be met through equivalent courses in the global network with prior approval.

### Business Required Core Course: 8 credits

- ECON-SHU 250 Economics of Global Business
- BUSF-SHU 250 Principles of Financial Accounting

### Interactive Media Foundation Courses: 8 credits

- INTM-SHU 110 Application Lab

And any one of the following courses:

- INTM-SHU 101 Interaction Lab
- INTM-SHU 120 Communications Lab
- INTM-SHU 130 Information Lab

### Business Flexible Core Courses: 8 credits

Choose 2 from the following (sophomore standing required):

- BUSF-SHU 210 Business Analytics
- BUSF-SHU 351 Operations Management
- MGKT-SHU 301 Management and Organizations
- MKTG-SHU 1 Introduction to Marketing
- BUSF-SHU 142 Information Technology in Business and Society
- BUSF-SHU 202 Foundations of Finance

### Business Elective Courses: 12 credits

- Any Business core, elective or IMA Business of Emerging Media courses

### Interactive Media Elective Courses: 24 credits

3-4 credits from the Seminar category

Sample Courses

- INTM-SHU 193 Chinese Cyberculture
- INTM-SHU 295-001 Seminar Topics: Digital Media & Culture
- INTM-SHU 295-002 Seminar Topics: From Cyborgs to Siri: Gender, Tech & Media
- PHIL-SHU 130 Philosophy of Technology: Thinking Machines
- GCHN-SHU 210 The Cultivated City

20 credits of electives from at least 4 of the following categories:

- Art & Design
- Business of Emerging Media
- Computation & Data
- Digital Humanities & Social Sciences
- Electronics & Physical Computing
- New Media & Entertainment

### Capstone Studio: 4 credits

- INTM-SHU 400 Capstone Studio

Important Notes:

- IMB majors are subject to the general degree requirements of NYU Shanghai. They must complete 128 total credits with a cumulative grade point average of at least 2.0.
- IMB majors are not able to double major in either Business & Finance, Business & Marketing, or Interactive Media Arts.
- The required Business & Finance and Business & Marketing course, Foundations of Finance, is optional for IMB majors. Students wishing to take Foundations of Finance must fulfill these prerequisites: Calculus, Microeconomics, and Statistics for Business and Economics.
- Microeconomics and Statistics for Business and Economics can be counted as Business electives for IMB majors.
- Students who began NYU Shanghai before the 2018-2019 academic year who have already taken Communications Lab and Interaction Lab may substitute one of them for Application Lab.
- If an IMB major takes a third or fourth Interactive Media foundation course it can be counted as an elective. "Communications Lab" would count under the New Media & Entertainment category, "Interaction Lab" would count under the Electronics & Physical Computing category, and "Information Lab" would count under the Computation & Data category.
- When studying away, students are only allowed to take 12 Interactive Media credits outside of Shanghai to apply towards the major. There are no limits to the number of Business credits that can be taken outside of Shanghai.

# INTERACTIVE MEDIA + Business

## SAMPLE SCHEDULE 1

This is just one example of how a student could organize their courses if pursuing a IMB major. It assumes a student begins taking IMB major courses in the first year. Sample Schedule 2 offers an alternate plan that begins in the second year. Students may propose alternative schedules to their advisors as well.

### Year 1

#### Fall Semester

Global Perspectives on Society

Core class

Core class

English, Chinese, core or General Elective

#### Spring Semester

Writing as Inquiry

Core Class

Application Lab

English, Chinese, core or General Elective

### Year 2

#### Fall Semester

Perspectives on the Humanities

Interaction Lab or Communications Lab or Information Lab

Interactive Media Elective

Core, Chinese or General Elective

#### Spring Semester

Economics of Global Business

Principles of Financial Accounting

Interactive Media Elective

Core, Chinese or General Elective

### Year 3

#### Fall Semester

Interactive Media Elective

Core Class

Business Flexible Core

Core or General Elective

#### Spring Semester

Interactive Media Elective

Business Flexible Core

Business Elective

Business Elective

### Year 4

#### Fall Semester

Interactive Media Elective

Business Elective

General Elective

General Elective

#### Spring Semester

Senior Thesis Project (IMA)

Interactive Media Elective

General Elective

General Elective

# INTERACTIVE MEDIA + Business

## SAMPLE SCHEDULE 2

### Year 1

#### Fall Semester

Global Perspectives on Society	Core class	Core class	English, Chinese, Core or General Elective
--------------------------------	------------	------------	--

#### Spring Semester

Writing as Inquiry	Core Class or General Elective	Core class	English, Chinese, core or General Elective
--------------------	--------------------------------	------------	--

### Year 2

#### Fall Semester

Perspectives on the Humanities	Application Lab	Interactive Media Elective	Core, Chinese or General Elective
--------------------------------	-----------------	----------------------------	-----------------------------------

#### Spring Semester

Economics of Global Business	Interaction Lab or Communications Lab or Information Lab	Principles of Financial Accounting	Core, Chinese or General Elective
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### Year 3

#### Fall Semester

Interactive Media Elective	Interactive Media Elective	Core	Business Flexible Core
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#### Spring Semester

Interactive Media Elective	Business Flexible Core	Business Elective	Interactive Media Elective
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### Year 4

#### Fall Semester

Interactive Media Elective	Business Elective	General Elective	General Elective
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#### Spring Semester

Senior Thesis Project (IMA)	Business Elective	General Elective	General Elective
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# MATHEMATICS

Mathematics forms the cornerstone of the sciences, playing a powerful dual role as both a pure science, and a tool for solving problems and modeling phenomena in other disciplines. For example, mathematics allows us to build efficient algorithms in computing, develop powerful artificial intelligence, analyze financial markets, model the physical universe, develop predictions for climate science, map and study the human genome, or analyze the structure of the human brain. Mathematics draws vitality from questions arising in nature, as well as from applications to industry and technology, and yet it is grounded in rigor and abstraction.

The Mathematics major is designed to give a comprehensive training in both mathematics and its applications to prepare for a career in industry, to give a solid background for computer science, physics, chemistry, engineering, data science, operations research, and other disciplines, or to pursue more advanced degree programs. Courses required for the Mathematics major provide essential training and experience in analysis, algebra, differential equations, and probability theory. Mathematics elective courses cover numerous topics of pure and applied mathematics, including statistics, numerical analysis, partial differential equations, topology, differential geometry, scientific computing, mathematical finance, abstract algebra, number theory, and functional analysis.

NYU Shanghai offers two degree tracks in Mathematics: Mathematics and Honors Mathematics. Students who are interested in pursuing graduate study in Mathematics are encouraged to consider the Honors Mathematics degree. The Honors Mathematics degree also provides a strong basis to studies in other sciences, from physics to data science, and students are encouraged to explore elective courses in these disciplines.

## REQUIREMENTS FOR THE MAJOR

Students must take Calculus (or Honors Calculus) to satisfy the Mathematics requirement in the core curriculum. If Honors Calculus is used for the Core requirement, it may not be used as a "Constrained Math Elective" for the major as listed below.

To fulfill the Core Curriculum Science requirement, Math majors must choose two courses from the following courses:

- Foundations of Physics I or II Honors or Physics I or II;
- Chemistry I or II;
- Biology I or II.

Not every course listed is taught every semester, and in any given semester other courses may be offered as a replacement. Requirements may be met through equivalent courses in the global network with prior approval. 3-credit versions of courses can generally substitute for a full 4-credit course requirement. A 2-credit course with a similar title or content will not by itself meet the requirement of the named course.

(HUMN-SHU 204)

### Required Mathematics Courses

- MATH-SHU 123                      Multivariable Calculus
- MATH-SHU 140                      Linear Algebra
- MATH-SHU 235                      Probability and Statistics **or**  
(MATH-SHU 233)                      Honors Theory of Probability
- MATH-SHU 262                      Ordinary Differential Equations **or**  
(MATH-SHU 362)                      Honors Ordinary Differential Equations
- MATH-SHU 282                      Functions of a Complex Variable

**Math Electives - Choose Eight, at least two must be from "Constrained Math Electives"**

### Constrained Math Electives

- MATH-SHU 141                      Honors Linear Algebra I
- MATH-SHU 142                      Honors Linear Algebra II
- MATH-SHU 201                      Honors Calculus
- MATH-SHU 233                      Honors Theory of Probability
- MATH-SHU 328                      Honors Analysis I
- MATH-SHU 329                      Honors Analysis II
- MATH-SHU 348                      Honors Algebra I
- MATH-SHU 349                      Honors Algebra II
- MATH-SHU 377                      Differential Geometry

### Additional Mathematics Electives

This list is not exhaustive; other courses may be added if approved.

- CSCI-SHU 2314                      Discrete Mathematics
- MATH-SHU 160                      Networks and Dynamics
- MATH-SHU 226                      Functional Analysis
- MATH-SHU 234                      Mathematical Statistics
- MATH-SHU 250                      Mathematics of Finance
- MATH-SHU 252                      Numerical Analysis
- MATH-SHU 263                      Partial Differential Equations



- MATH-SHU 329 Honors Analysis II
- MATH-SHU 339 Real Variables
- MATH-SHU 341 Number Theory
- MATH-SHU 345 Intro to Stochastic Processes
- MATH-SHU 349 Honors Algebra II
- MATH-SHU 375 Topology
- MATH-SHU 377 Differential Geometry
- MATH-SHU 997 Math Independent Study

**senior thesis or independent study course requiring a thesis**

### **MATHEMATICS MINOR**

Four 4-credit mathematics courses at the Calculus level or higher. Of current math offerings, Mathematics for Economists and Mathematical Functions do not count for the minor.

# MATHEMATICS

## SAMPLE SCHEDULE 1

This is just one example of how a student could organize their courses if pursuing a Mathematics major. It is strongly advised to take Linear algebra in the first semester, as it is a prerequisite for most of the other Mathematics courses, as is the core course Calculus. The sample schedule 2 shows other options for students who want to explore other disciplines at the same time.

### Year 1

#### Fall Semester

Global Perspectives on Society I	Calculus (Core class)	Linear algebra	English, Chinese, Core or General Elective
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#### Spring Semester

Writing as Inquiry	Multivariate Calculus	Probability and Statistics	English, Chinese, Core or General Elective
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### Year 2

#### Fall Semester

Perspectives on the Humanities	Math or General Elective	Math Elective	Chinese, Core or General Elective
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#### Spring Semester

Core class	Ordinary Differential Equations	Functions of a Complex Variable	Chinese, Core or General Elective
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### Year 3

#### Fall Semester

Core class or General Elective	Math Elective	Math Elective	General Elective
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#### Spring Semester

Math Elective	Math Elective	Math or General Elective	General Elective
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### Year 4

#### Fall Semester

General Elective	Math Elective	Math Elective	General Elective
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#### Spring Semester

General Elective	Math Elective	Math Elective	General Elective
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# MATHEMATICS

## SAMPLE SCHEDULE 2

### Year 1

#### Fall Semester

Global Perspectives on Society	Core class (Calculus)	Core Class	English, Chinese, Core or General Elective
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#### Spring Semester

Writing as Inquiry	Core Class	Core Class or General Elective	English, Chinese, Core or General Elective
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### Year 2

#### Fall Semester

Perspectives on the Humanities	Linear Algebra	Multivariate Calculus	Core, General Elective or Chinese
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#### Spring Semester

Core class	Probability and Statistics	Functions of a Complex Variable	Core, General Elective or Chinese
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### Year 3

#### Fall Semester

Core class or General Elective	Ordinary Differential Equations	Math Elective	Math Elective
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#### Spring Semester

Math Elective	Math Elective	Math Elective	General Elective
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### Year 4

#### Fall Semester

Math Elective	Math Elective	General Elective	General Elective
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#### Spring Semester

Math Elective	General Elective	General Elective	General Elective
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## REQUIREMENTS FOR THE MAJOR

Students desiring to major in Honors Mathematics must have achieved a general GPA of 3.65 or higher, and a GPA of 3.65 or higher in the major sequence. The earliest students are able to declare the major is after completion of Analysis I and Honors Linear Algebra II and posting of their spring semester freshman year grades. If the GPA requirements are not met, the students may graduate as Mathematics majors but retain the Honors designation of the individual courses they took on their transcripts.

**Students must take Honors Calculus to satisfy the Mathematics requirement in the core curriculum. To fulfill the Core Curriculum Science requirement, Honors Mathematics majors must choose two courses from the following courses:**

- Foundations of Physics I or II Honors or Physics I or II;
- Chemistry I or II;
- Biology I or II

Not every course listed is taught every semester, and in any given semester other courses may be offered as a replacement. Requirements may be met through equivalent courses in the global network with prior approval. 3-credit versions of courses can generally substitute for a full 4-credit course requirement. A 2-credit course with a similar title or content will not by itself meet the requirement of the named course.

### Required Mathematics Courses

- MATH-SHU 141 Honors Linear Algebra I
- MATH-SHU 142 Honors Linear Algebra II
- MATH-SHU 233 Honors Theory of Probability
- MATH-SHU 282 Functions of a Complex Variable
- MATH-SHU 328 Honors Analysis I
- MATH-SHU 329 Honors Analysis II
- MATH-SHU 348 Honors Algebra I or MATH-SHU 377 Differential Geometry
- MATH-SHU 362 Honors Ordinary Differential Equations

### Math Electives - Choose five

This list is not exhaustive; other courses may be added if approved.

- CSCI-SHU 2314 Discrete Mathematics
- MATH-SHU 160 Networks and Dynamics
- MATH-SHU 226 Functional Analysis
- MATH-SHU 234 Mathematical Statistics
- MATH-SHU 250 Mathematics of Finance
- MATH-SHU 252 Numerical Analysis
- MATH-SHU 263 Partial Differential Equations
- MATH-SHU 339 Real Variables
- MATH-SHU 341 Number Theory
- MATH-SHU 345 Intro to Stochastic Processes
- MATH-SHU 349 Honors Algebra II
- MATH-SHU 375 Topology
- MATH-SHU 997 Math Independent Study

**senior thesis or independent study course requiring a thesis**

# HONORS MATHEMATICS

## SAMPLE SCHEDULE 1

This is just one example of how a student could organize their courses if pursuing an Honors Math major. Students may propose alternative schedules to their advisors as well. It is however strongly advised to take the four suggested honors classes in the first year.

### Year 1

#### Fall Semester

Global Perspectives on Society	Honors Calculus (Core class)	Honors Linear Algebra I	English, Chinese, Core or General Elective
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#### Spring Semester

Writing as Inquiry	Honors Analysis I	Honors Linear Algebra II	English, Chinese, Core or General Elective
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### Year 2

#### Fall Semester

Perspectives on the Humanities	Honors Analysis II	Honors Ordinary Differential Equations	Honors Theory of Probability
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#### Spring Semester

Core class	Functions of a Complex Variable	Core, General Elective, or Chinese	Core, General Elective, or Chinese
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### Year 3

#### Fall Semester

Core class	Honors Algebra I	Mathematics Elective	Core class or General Elective
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#### Spring Semester

Core class	Mathematics Elective	Mathematics Elective	General Elective
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### Year 4

#### Fall Semester

General Elective	Mathematics Elective	Mathematics Elective	General Elective
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#### Spring Semester

General Elective	Differential Geometry	General Elective	General Elective
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# HONORS MATHEMATICS

## SAMPLE SCHEDULE 2

This is an alternative schedule for students who decide to enroll in the Honors Mathematics track at a later time. It is strongly advised to follow the Honors Linear Algebra I in the fall semester of the first year, since Linear Algebra is a requirement for most mathematics courses, as is Honors Calculus.

### Year 1

#### Fall Semester

Global Perspectives on Society

Honors Calculus (Core class)

Honors Linear Algebra I

General Elective

#### Spring Semester

Writing as Inquiry

Core or General Elective

English, Chinese, Core or General Elective

General Elective

### Year 2

#### Fall Semester

Perspectives on the Humanities

Honors Ordinary Differential Equations

Honors Theory of Probability

General Elective

#### Spring Semester

Core, Chinese, or General Elective

Honors Analysis I

Honors Linear Algebra II

Functions of a Complex Variable

### Year 3

#### Fall Semester

Core, Chinese, or General Elective

Honors Algebra I

Mathematics Elective

General Elective

#### Spring Semester

General Elective

Mathematics Elective

Mathematics Elective

General Elective

### Year 4

#### Fall Semester

General Elective

Honors Analysis II

Mathematics Elective

General Elective

#### Spring Semester

General Elective

Differential Geometry

Mathematics Elective

General Elective

Neural science (NS) is a collection of disciplines unified by a concern for the function of the brain. Experimental approaches in neural science vary from analyses of molecular and cellular mechanisms in nerve cells and groups of nerve cells to behavioral and psychological studies of whole organisms. Theoretical tools include mathematical and computational modeling approaches that have proved useful in other areas of science. We attract students who are interested in understanding the brain's command of all its diverse functions including but not limited to the following questions: How do cell circuits enable us to read and speak? How and why do we form relationships? How do we think, remember, despair, or motivate? What are possible causes of devastating disorders of the brain and body, as well as ways to prevent or cure them?

The NS major studies the brain and its impact on behavior and cognitive functions, the understanding of which is regarded as the Holy Grail of the current century. Increasing understanding of the brain will enable scientists to develop treatments for neurodegenerative diseases (such as Parkinson's disease & Alzheimer's disease) and mental illnesses. NS research will also help us find out more about normal human behavior and mental wellbeing, and can thus help develop artificial intelligence as well as treating illnesses. NS research could also lead to better understanding of how we learn, allowing us to optimize our intelligence. These developments are likely to provide significant benefits for society and have implications for a diverse range of public policy areas such as health, education, law, and security.

The undergraduate NS curriculum blends courses from many of the basic sciences (such as mathematics, biology, physics, & chemistry) as a foundation for higher level work in NS. NS major requirement contains 6 required courses including one capstone course and 2 elective courses. In addition, students who demonstrate a genuine interest in research and achieve a grade point average of 3.65 or higher in all courses required for the major and over all courses taken for credit can apply to be on Honors Track.

## REQUIREMENTS FOR THE MAJOR

Not every course listed below is taught in every semester. In any given semester, other courses may be offered that fulfill the requirement. Requirements may be met through taking equivalent courses in the Global Network with the prior approval from the Director of Undergraduate Studies (DUS) for Neural Science.

### Foundational Courses

- |                 |  |
|-----------------|--|
| • BIOL-SHU 21   | Foundations of Biology I                   |
| • BIOL-SHU 22   | Foundations of Biology II                  |
| • BIOL-SHU 123  | FoS Biology Laboratory                     |
| • CHEM-SHU 125  | Foundations of Chemistry I                 |
| • CHEM-SHU 126  | Foundations of Chemistry II                |
| • CHEM-SHU 127  | FoS Chemistry Laboratory                   |
| • PHYS-SHU 71   | FoS Physics Laboratory                     |
| • PHYS-SHU 91   | Foundations of Physics I Honors <b>OR</b>  |
| • (PHYS-SHU 11) | General Physics I                          |
| • PHYS-SHU 93   | Foundations of Physics II Honors <b>OR</b> |
| • (PHYS-SHU 12) | General Physics II                         |
| • PHYS-SHU 94   | Physics II Lab                             |

### Note:

1. NS majors are encouraged to complete the above classes in their first 2 years.
2. NS majors are not required to take Foundations of Physics III Honors and may substitute General Physics I & II for the Foundations of Physics I & II Honors.
3. Relationship between General Physics and Foundations of Physics Honors (FoS Physics Honors): General Physics I & II is a calculus-based course for pre-meds, engineers and others who want a broad introduction and survey of basic physics including classical mechanics, electricity and magnetism, optics and waves, and thermal and statistical physics. Foundations of Physics I-IV Honors covers a similar set of topics in considerably greater depth, plus special relativity and an introduction to quantum mechanics, over four semesters. Please note that Foundations of Physics I & II Honors alone do not include some important topics, such as optics, thermal and statistical physics, which are included in Foundations of Physics III Honors, and introduction to mechanics and condensed matter physics in Foundations of Physics IV Honors. Therefore, students electing to take the Honors Physics track are highly recommended to take Foundations of Physics III Honors and Foundations of Physics IV Honors as well. Students with strong high-school backgrounds in physics or maths are also highly recommended to take Foundations of Physics Honors I-IV.

### Required Major Courses (All Six)

- |                |  |
|----------------|--|
| • NEUR-SHU 100 | Statistics for Behavioral Sciences/Math Tools for Life Sciences (Spring) |
| • NEUR-SHU 201 | Introduction to Neural Science (Fall)                                    |
| • NEUR-SHU 251 | Behavioral and Integrative Neuroscience (Spring)                         |
| • NEUR-SHU 301 | Cellular and Molecular Neuroscience (Fall)                               |

### One approved upper-level course in either Psychology or Biology:

#### Approved upper-level Psychology courses:

- |                |                                     |
|----------------|-------------------------------------|
| • NEUR-SHU 222 | Perception                          |
| • NEUR-SHU 265 | Neural Bases of Speech and Language |

\*The following courses will not be offered at NYU Shanghai but students may take one of them at New York to fulfill the requirement.

- |               |                   |
|---------------|-------------------|
| • PSYCH-UA 29 | Cognition         |
| • PSYCH-UA 44 | Lab in Perception |



- PSYCH-UA 46 Lab in Human Cognition
- PSYCH-UA 55 Psychology, Neuropsychology, and Medicine
- PSYCH-UA 300 From Illusions to Inference

#### **Approved upper-level Biology courses:**

- BIOL-SHU 30 Genetics
- BIOL-SHU 50 Immunology
- BIOL-SHU 263 Developmental Biology
- CHEM-SHU 881 Biochemistry I
- CHEM-SHU 882 Biochemistry II

\*The following courses will not be offered at NYU Shanghai but students may take one of them at New York to fulfill the requirement.

- BIOL-UA 25 Principles of Animal Physiology
- BIOL-GA 1501 Mathematics in Medicine and Biology
- BIOL-GA 1502 Computers in Medicine and Biology

Major Capstone Course: NEUR-SHU 997/998 Independent Study in Neural Science (2-4 credits, can be repeated once): Open to senior neural science majors with permission of DUS.

Independent Study must have a combined total of at least 4 credits but no more than 8 credits to fulfill the major capstone course requirement. The 4-credit requirement can be fulfilled in 1 semester with a 4-credit load or over 2 semesters with a 2-credit load in each semester.

#### **Major Electives (Choose Two)**

- MATH-SHU 160 Networks and Dynamics (Spring)
- NEUR-SHU 10J Free Will and the Brain (Spring)
- NEUR-SHU 200 Topics: Neurobiology of Hearing
- NEUR-SHU 222 Perception (Spring, can count as an approved upper-level Psychology course)
- NEUR-SHU 261 Neurobiology of Decision Making (Spring)
- NEUR-SHU 265 Neural Bases of Speech and Language (Fall, can count as an approved upper-level Psychology course)
- NEUR-SHU 302 Modeling and Simulations in Neuroscience (Fall)

\*The following courses will not be offered at NYU Shanghai but students may take one of them at New York to fulfill the requirement.

- NEURL-UA 302 Special Topics in Neural Science
- NEURL-UA 305 Development and Dysfunction of the Nervous System

#### **General Electives**

Students may take any courses in the NYU system to meet the general elective requirements and are strongly encouraged (but not required) to take Introduction to Programming and choose from the following listed courses to develop research skills.

#### **Recommended Computer Science General Electives:**

- CSCI-SHU 101 Introduction to Computer Science
- CSCI-SHU 220 Algorithms
- CSCI-SHU 358 Theory of Computation
- CSCI-SHU 360 Introduction to Machine Learning and Data Mining
- CSCI-SHU 372 Artificial Intelligence
- CSCI-SHU 402 Advanced Algorithms

- |                 |                     |
|-----------------|---------------------|
| • EENG-SHU 2054 | Signals and Systems |
| • EENG-SHU 251  | Circuits            |
| • EENG-SHU 352  | Control Systems     |
| • EENG-SHU 375  | Robotic Systems     |

**Recommended Mathematics General Electives:**

- |                |                                |
|----------------|--------------------------------|
| • MATH-SHU 123 | Multivariable Calculus         |
| • MATH-SHU 140 | Linear Algebra                 |
| • MATH-SHU 233 | Theory of Probability          |
| • MATH-SHU 235 | Probability and Statistics     |
| • MATH-SHU 263 | Partial Differential Equations |

**Neural Science Minor**

- |                |   |
|----------------|---|
| • BIOL-SHU 21  | Foundations of Biology I                          |
| • BIOL-SHU 22  | Foundations of Biology II                         |
| • BIOL-SHU 123 | FoS Biology Laboratory                            |
| • NEUR-SHU 201 | Introduction to Neural Science                    |
| • NEUR-SHU 251 | Behavioral and Integrative Neuroscience <b>OR</b> |
| (NEUR-SHU 301) | Cellular and Molecular Neuroscience               |

# NEURAL SCIENCE

## SAMPLE SCHEDULE 1

This is just one example of how a student could organize their courses if pursuing a NS major. It assumes a student begins taking NS major courses in the first semester of their first year. Sample Schedule 2 offers an alternate plan that involves beginning to pursue a NS major in the spring semester of the first year. Students may propose alternative schedules to their advisors as well.

### Year 1

#### Fall Semester

Global Perspectives on Society

Core Class (Calculus)

8 credits: Foundations of Physics I Honors/General Physics I, Foundations of Chemistry I, and FoS Physics Laboratory

2 credits: English or Chinese

#### Spring Semester

Writing as Inquiry

Core Class or NS Elective

8 credits: Foundations of Biology I and Foundations of Chemistry II and FoS Chemistry Lab

2 credits: English or Chinese

### Year 2

#### Fall Semester

Perspectives on the Humanities

Introduction to Neural Science

5 credits: Foundations of Biology II and FoS Biology Laboratory

NS elective, Core, Chinese, or General Elective

#### Spring Semester

Behavioral and Integrative Neuroscience

Math Tools for Life Sciences

Core Class, NS elective, Chinese, English, or General Elective

5 credits: Foundations of Physics II Honors/General Physics II, Physics II Lab

### Year 3

#### Fall Semester

Cellular and Molecular Neuroscience

NS Elective

General Elective

General Elective

#### Spring Semester

Approved upper-level course in either Psychology or Biology

NS Elective

General Elective

General Elective

### Year 4

#### Fall Semester

General Elective

Major Capstone or General Elective

General Elective

General Elective

#### Spring Semester

Major Capstone or General Elective

General Elective

General Elective

General Elective

# NEURAL SCIENCE

## SAMPLE SCHEDULE 2

### Year 1

#### Fall Semester

Global Perspectives on Society	Core Class (Calculus)	Core Class	English, Chinese or General Elective
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#### Spring Semester

Writing as Inquiry	Core Classus	3 credits: Foundations of Biology I	English, Chinese or General Elective
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### Year 2

#### Fall Semester

Perspectives on the Humanities	Intro to Neural Science	8 credits: Foundations of Chemistry I, Foundations of Biology II, FoS Biology Laboratory	No class
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#### Spring Semester

Math Tools for Life Sciences	Behavioral and Integrative Neuroscience	5 credits: Foundations of Chemistry II and FoS Chemistry Laboratory	Chinese or General Elective
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### Year 3

#### Fall Semester

Cellular and Molecular Neuroscience	NS Elective	General Elective	Chinese or General Elective
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#### Spring Semester

Approved upper-level course in either Psychology or Biology	NS Elective	General Elective	General Elective
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### Year 4

#### Fall Semester

5 credits: Foundations of Physics I Honors/General Physics I, FoS Physics Laboratory	Major Capstone or General Elective	General Elective	General Elective
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#### Spring Semester

5 credits: Foundations of Physics II Honors/General Physics II, Physics II Lab	Major Capstone or General Elective	General Elective	General Elective
--	------------------------------------	------------------	------------------

Physics is a broad discipline, ranging from fundamental scientific questions to sophisticated technological applications. At its most basic, it is the study of matter and energy and their manifold interactions. Physicists study topics as wide-ranging as the underlying nature of space and time; the origins, large-scale structure, and future evolution of the universe; the behavior of stars and galaxies; the fundamental constituents of matter; the many different patterns in which matter is organized, including superconductivity, liquid crystals, or the various forms of magnetism in solids; the workings of biological matter, whether in molecules such as DNA, or cellular structures, or the transport of matter and energy in and across cells; and many others. Basic physics research has led to myriad technological advances, which have transformed society in the 20th century through the present day; a small list includes: radio and television; computers; lasers; X-rays; magnetic resonance imaging and CAT scans; and the World Wide Web.

Physics is a hands-on discipline, and our students gain expertise not only in the classroom but also in the laboratory. They may participate in activities ranging from the writing of realistic computer modeling of fundamental physical principles to the modeling of financial activities, as well as the more traditional activities of physicists and mathematicians. Those trained in physics are found in many occupations, such as various fields of engineering, computer technology, health, environmental and earth sciences, communications, finance, and science writing. A higher degree opens the possibility of creative research in industry, or teaching and research in colleges and universities. Outstanding and highly motivated students are offered special opportunities for honors work, independent study, summer laboratory research, internships, and other enhancements. Our interdisciplinary approach and experimental work is geared to meet the current demand for scientists with well-integrated backgrounds who became the leaders in modern scientific scholarship and who pursue careers in research, education, industry, health care, business, and publishing.

## REQUIREMENTS FOR THE MAJOR

**Note:** Not every course listed below is taught in every semester. In any given semester, other courses may be offered that fulfill the requirement. Requirements may be met through taking equivalent courses in NYU's global network with the prior approval.

### Foundational Courses

- |                |   |
|----------------|---|
| • BIOL-SHU 21  | Foundations of Biology I                      |
| • BIOL-SHU 123 | FoS Biology Laboratory                        |
| • CHEM-SHU 125 | Foundations of Chemistry I                    |
| • CHEM-SHU 126 | Foundations of Chemistry II                   |
| • CHEM-SHU 127 | FoS Chemistry Laboratory                      |
| • PHYS-SHU 71  | FoS Physics Laboratory                        |
| • PHYS-SHU 91  | Foundations of Physics I Honors <b>OR</b>     |
| (PHYS-SHU 11)  | General Physics I (with a B+ or better grade) |
| • PHYS-SHU 93  | Foundations of Physics II Honors              |
| • PHYS-SHU 94  | Physics II Laboratory                         |
| • PHYS-SHU 95  | Foundations of Physics III Honors             |
| • PHYS-SHU 96  | Foundations of Physics IV Honors              |

### Note:

- 1) Relationship between General Physics and Foundations of Physics Honors (FoS Physics Honors): General Physics I & II is a calculus-based course for pre-meds, engineers and others who want a broad introduction and survey of basic physics including classical mechanics, electricity and magnetism, optics and waves, and thermal and statistical physics. Foundations of Physics I-IV Honors covers a similar set of topics in considerably greater depth, plus special relativity and an introduction to quantum mechanics, over four semesters. It should be emphasized that Foundations of Physics I&II Honors alone do not include some important topics, such as optics, thermal and statistical physics, which are included in Foundations of Physics III Honors, and introduction to quantum mechanics and condensed matter physics in Foundations of Physics IV Honors. Therefore, students electing to take the Honors Physics track are highly recommended to take Foundations of Physics III Honors and Foundations of Physics IV Honors as well.
- 2) Students who have taken General Physics I and received a B+ or better grade also satisfy the prerequisite to take Foundations of Physics II Honors. Such students may also become Physics Majors and do not have to retake Foundations of Physics I Honors. However, students who already are interested in majoring in Physics, as well as those interested in the honors track, or those with strong high-school backgrounds in physics or maths are strongly recommended to take Foundations of Physics I-IV Honors.
- 3) Physics majors are not required to take Foundations of Biology II.
- 4) Physics majors are required to take Linear Algebra and Differential Equations. They should not take Linear Algebra.

### Required Courses

- |                |  |
|----------------|--|
| • MATH-SHU 123 | Multivariable Calculus   |
| • MATH-SHU 235 | Probability and Statistics   |
| • MATH-SHU 265 | Linear Algebra and Differential Equations  |
| • PHYS-SHU 106 | Mathematical Physics   |
| • PHYS-SHU 251 | Electricity and Magnetism  |
| • PHYS-SHU 301 | Quantum Mechanics  |
| • PHYS-SHU 302 | Statistical Mechanics and Thermodynamics   |
| • PHYS-SHU 303 | Advanced Physics Laboratory  |
| • PHYS-SHU 998 | Integrated Science Capstone (This course must be taken in the last semester before graduation) |

**Physics Electives - Choose Two**

- PHYS-SHU 210 Computational Physics
- PHYS-SHU 252 Solid State Physics
- PHYS-SHU 255 Biophysics
- PHYS-SHU 314 Astrophysics
- PHYS-SHU 315 Nuclear and Particle Physics

**Physics Minor**

- PHYS-SHU 71 FoS Physics Laboratory
- PHYS-SHU 91 Foundations of Physics I Honors **OR**
- (CCSC-SHU 50) Physics I
- PHYS-SHU 93 Foundations of Physics II Honors **OR**
- (CCSC-SHU 5) Physics II
- PHYS-SHU 94 Physics II Laboratory
- Two Physics Elective Courses (Must bring total credits of the minor courses to 16 or more)

# PHYSICS

## SAMPLE SCHEDULE 1

This is just one example of how a student could organize their courses if pursuing a Physics major. It assumes a student begins taking Physics major courses in the first semester of their first year. Sample Schedule 2 offers an alternate plan that involves beginning to pursue a Physics major in the spring semester of the first year. Students may propose alternative schedules to their advisors as well.

### Year 1

#### Fall Semester

Global Perspectives on Society

Core Class (Calculus)

8 credits:  
Foundations of Physics I Honors, Foundations of Chemistry I, and FoS Physics Laboratory

2 credits: English or Chinese

#### Spring Semester

Writing as Inquiry

Multivariable Calculus

8 credits:  
Foundations of Physics II Honors, Physics II Lab, Foundations of Biology I

2 credits: English or Chinese

### Year 2

#### Fall Semester

Perspectives on the Humanities

Linear Algebra and Differential Equations

5 credits:  
Foundations of Physics III and FoS Biology Laboratory

Probability and Statistics

#### Spring Semester

8 credits:  
Foundations of Physics IV Honors, Foundations of Chemistry II, FoS Chemistry Laboratory

Mathematical Physics

Core or General Elective

English or Chinese

### Year 3

#### Fall Semester

Electricity and Magnetism

Quantum Mechanics

Physics Elective

Chinese or General Elective

#### Spring Semester

Statistical Mechanics and Thermodynamics

Physics Elective

General Elective

Chinese or General Elective

### Year 4

#### Fall Semester

Advanced Physics Lab

General Elective

General Elective

Chinese or General Elective

#### Spring Semester

Integrated Science Capstone

General Elective

General Elective

Chinese or General Elective



# PHYSICS

## SAMPLE SCHEDULE 2

### Year 1

#### Fall Semester

Global Perspectives on Society	Core Class (Calculus)	Core Class	English, Chinese, or General Elective
--------------------------------	-----------------------	------------	---------------------------------------

#### Spring Semester

Writing as Inquiry	Core Class	Multivariable Calculus	English, Chinese, or General Elective
--------------------	------------	------------------------	---------------------------------------

### Year 2

#### Fall Semester

Perspectives on the Humanities	8 credits: Foundations of Physics I Honors, Foundations of Chemistry I, and FoS Physics Laboratory	Linear Algebra and Differential Equations	No Class
--------------------------------	---	---	----------

#### Spring Semester

Probability and Statistics	8 credits: Foundations of Physics II Honors, Physics II Lab, Foundations of Biology I	General Elective	No Class
----------------------------	--	------------------	----------

### Year 3

#### Fall Semester

5 credits: Foundations of Physics III and FoS Biology Laboratory	Chinese or General Elective	General Elective	General Elective
---	-----------------------------	------------------	------------------

#### Spring Semester

Mathematical Physics	8 credits: Foundations of Physics IV Honors, Foundations of Chemistry II, FoS Chemistry Laboratory	Chinese or General Elective	No Class
----------------------	---	-----------------------------	----------

### Year 4

#### Fall Semester

Physics Elective	Electricity and Magnetism	Quantum Mechanics	General Elective
------------------	---------------------------	-------------------	------------------

#### Spring Semester

Statistical Mechanics and Thermodynamics	Advanced Physics Lab	Physics Elective	Integrated Science Capstone
--	----------------------	------------------	-----------------------------

# SOCIAL SCIENCE

Social scientists study human interactions among individuals, families, communities, and nations. Using a range of analytical, interpretive, and experimental tools from anthropology, economics, sociology, political science, and psychology, social scientists seek to understand conflict and cooperation, epidemics of disease and poverty, social organization and social change, kinship and belonging, human development, systems of exchange, and other enduring questions at the center of our shared humanity.

Students who complete the Social Science major at NYU Shanghai will be prepared to pursue careers and advanced study in fields as diverse as anthropology, business, development, economics, education, environmental studies, law, psychology, political science, public health, public service, sociology, and social policy. The major offers students a unique opportunity to explore broad areas of social science research and thought, while also allowing a concentration in one disciplinary area or a synthetic combination of fields within the major. The Social Science major encourages interdisciplinary inquiry into the complex problems of our contemporary world and the cross-disciplinary exchange that is at the heart of many of the most interesting advances in social science research today.

Social Science majors at NYU Shanghai develop competence in a variety of research tools in two methods courses and complete two interdisciplinary core courses on classic forms of social science analysis and new frontiers in social science research. Social Science majors select two foundational courses in the social science disciplines, and three focus courses chosen in consultation with their faculty mentor to deepen their engagement with a social science discipline (for example, anthropology or political science)\* or an interdisciplinary topic of interest (for example, environmental studies, political economy, or global health). China—its peoples and politics—is an important focus for teaching and learning in the major, but the major is purposefully heterogeneous in the geographical, methodological, and analytical scope of its course offerings. Social Science majors complete an independent research project as part of a one-semester senior year capstone project.

\*NYU Shanghai students interested in a disciplinary focus in Economics are advised to pursue the Economics major instead of the Social Science major.

## REQUIREMENTS FOR THE MAJOR

**Note:** While Calculus is not a requirement in the Social Science major, some Foundational/Methods/Focus courses (but not all) do require Calculus as a prerequisite. Thus, students are encouraged to consider what courses they would like to take for the Social Science major and whether Calculus is a prerequisite.

Not every course listed is taught every semester, and in any given semester other courses may be offered that fulfill these requirements. Requirements may be met through equivalent courses in NYU's global network with prior approval.

### Foundational Courses (100-200 level) - Two Courses

These courses provide an introduction to the foundational knowledge and building blocks of analytic methods in a range of social sciences. Typical coursework: A mix of lectures, discussion, assignments, shorter essays, quizzes, and/or exams.

#### Sample Courses

• ECON-SHU 1	Principles of Macroeconomics
• ECON-SHU 2	Principles of Microeconomics
• ECON-SHU 3	Microeconomics
• ECON-SHU 251	Economics of Global Business
• PSYC-SHU 101	Introduction to Psychology
• SOCS-SHU 135	Environment and Society
• SOCS-SHU 150	Introduction to Comparative Politics
• SOCS-SHU 160	Introduction to International Politics
• SOCS-SHU 170	Introduction to Global Health

### Methods Courses (100-300 level) - Two Courses

These courses equip students with tools to both critically consume and create advanced social scientific research. Methods courses include introductory courses and more advanced courses which may have one or more prerequisites. Additional methods courses are available at the study away sites, NYU New York, and NYU Abu Dhabi.

#### Sample Courses

• BUSF-SHU 101	Statistics for Business and Economics
• ECON-SHU 213	Causal Inference in the Social Sciences
• ECON-SHU 216	Introduction to Game Theory
• ECON-SHU 301	Econometrics
• MATH-SHU 235	Probability and Statistics
• SOCS-SHU 141	Methods of Social Research
• SOCS-SHU 210	Statistics for the Behavioral and Social Sciences
• SOCS-SHU 248	Fraud
• SOCS-SHU 318	Ethnographic Methods
• SOCS-SHU 350	Empirical Research Practice

\* If a methods course carries only 2 credits, a second 2-credit course in a similar field is needed to complete a method course requirement.

### Core Courses (200-300 level) (Prereq: GPS) - Two Courses

The core social science courses are interdisciplinary courses that create unexpected connections between the social science disciplines. Classic Problems courses introduce the history and philosophy of the social scientific approach. New Challenges courses introduce new approaches to current challenges in social science research. Students must take one course from each of the two core categories. Social Science core courses are not widely available at the study away sites, NYU New York, or NYU Abu Dhabi; students should plan to take them in Shanghai.

## Classic Problems in Social Science

### Sample Courses

- |                |                                  |
|----------------|----------------------------------|
| • SOCS-SHU 229 | Capitalism, Socialism, Communism |
| • SOCS-SHU 245 | Ethnographic Thinking            |
| • SOCS-SHU 253 | Nature in Social Thought         |

## New Challenges in Social Science

### Sample Courses

- |                |                                     |
|----------------|-------------------------------------|
| • SOCS-SHU 234 | Image as Evidence                   |
| • SOCS-SHU 270 | Social Change in Contemporary China |
| • SOCS-SHU 334 | Legal Psychology                    |

**Note:** Students who complete two Social Science core courses may use additional core courses to complete the focus requirement if appropriate for their approved choice of focus.

## Focus Courses (200-400 level, Two must be 300 or 400 level) - Three Courses

Students select a disciplinary or interdisciplinary track in which to focus within the social science major. Disciplinary tracks include Anthropology, Psychology, Political Science, and Sociology. Interdisciplinary tracks include Environmental Studies, Global Health, International Relations, and Political Economy. Students must complete 3 courses in one track, at least 2 of which must be at the advanced level (300 or 400 level). Your academic advisor can help you determine which courses count for each track, and at which level, if it is not clear from the course code. Students may also petition to self-design a different interdisciplinary track with prior approval from the Area Leader. Students who wish to focus in Economics are advised to pursue the Economics major instead. Tracks are noted on student transcripts; for students who self-design a track, "Self-Designed" will appear as the track of record on their transcripts. Additional focus courses are widely available at the study away sites, NYU New York, and NYU Abu Dhabi.

### Sample Courses

- |                 |   |
|-----------------|---|
| • BPEP-SHU 9042 | Political Economy of East Asia (GCHN-SHU 342)                                     |
| • CCSF-SHU 123  | Contemporary Chinese Political Thought  |
| • ECON-SHU 10   | Intermediate Microeconomics   |
| • ECON-SHU 200  | Topics: Economics of Gender   |
| • ECON-SHU 202  | Intermediate Macroeconomics   |
| • ECON-SHU 215  | Economic History  |
| • ECON-SHU 238  | History of Modern Economic Growth: Exploring China From a Comparative Perspective |
| • ECON-SHU 260  | International Trade   |
| • GCHN-SHU 241  | Chinese Revolutions   |
| • GCHN-SHU 243  | Chinese Environmental Studies   |
| • LWSO-SHU 491  | International Investment Transactions in Developing Countries                     |
| • MCC-SHU 9451  | Global Media Seminar: China   |
| • PSYC-SHU 234  | Developmental Psychology  |
| • PSYC-SHU 329  | Parenting and Culture   |
| • PSYC-SHU 349  | Cultures of Psychology  |
| • PSYC-SHU 352  | Psychology of Human Sexuality   |
| • SOCS-SHU 232  | International Law and Institutions  |
| • SOCS-SHU 241  | Cultures of Business and Work   |
| • SOCS-SHU 251  | Law, Culture, and Politics in China   |
| • SOCS-SHU 272  | The U.S. Constitution: Is It Relevant to China?                                   |
| • SOCS-SHU 300  | Topics in Law and Politics  |

- |                |  |
|----------------|--|
| • SOCS-SHU 306 | Pestilence: Critical Perspectives in Global Health |
| • SOCS-SHU 333 | Global Environmental Politics                      |
| • SOCS-SHU 339 | Comparative Revolutions                            |
| • SOCS-SHU 340 | Comparative Constitutions                          |
| • SOCS-SHU 341 | Cross-Strait Relations                             |
| • SOCS-SHU 360 | Urban Sociology                                    |
| • SOCS-SHU 445 | Topics in Society, Health, and Medicine            |

### **Capstone Course - One Course**

Students complete a capstone seminar course during one semester of their senior year. As part of the capstone seminar students conduct an independent research project in their track using the methods, theories, and data with which they have become familiar over the course of completing the major. The capstone seminar must be completed in Shanghai.

### **Social Science Minor**

Students who wish to complete a minor in Social Science must complete one of the Methods courses from the list of approved Social Science Methods courses and three additional courses from the list of approved Social Science Foundational, Methods or Focus courses.

# Social Science

## SAMPLE SCHEDULE 1

This is just one example of how a student could organize their courses if pursuing a Social Science major. It assumes a student begins taking Social Science major courses in the first year. Sample Schedule 2 offers an alternate plan that begins in the second year. Students may propose alternative schedules to their advisors as well.

### Year 1

#### Fall Semester

Global Perspectives on Society	Core class	Core class	English or Chinese
--------------------------------	------------	------------	--------------------

#### Spring Semester

Writing as Inquiry	Foundational Course	Core class	English or Chinese
--------------------	---------------------	------------	--------------------

### Year 2

#### Fall Semester

Perspectives on the Humanities	Foundational Course	Social Science Core	Core class or Chinese
--------------------------------	---------------------	---------------------	-----------------------

#### Spring Semester

Core class, or Chinese	Core class	Social Science Core	Methods Course
------------------------	------------	---------------------	----------------

### Year 3

#### Fall Semester

Core class	Focus Course	General Elective	General Elective
------------	--------------	------------------	------------------

#### Spring Semester

Focus Course	General Elective	Core or General Elective	General Elective
--------------	------------------	--------------------------	------------------

### Year 4

#### Fall Semester

Methods Course	Focus Course	General Elective	General Elective
----------------	--------------	------------------	------------------

#### Spring Semester

Capstone Course	General Elective	General Elective	General Elective
-----------------	------------------	------------------	------------------

# Social Science

## SAMPLE SCHEDULE 2

### Year 1

Fall Semester

Global Perspectives on Society	Core Class	Core class	English or Chinese
--------------------------------	------------	------------	--------------------

Spring Semester

Writing as Inquiry	Core class	General Elective	English or Chinese
--------------------	------------	------------------	--------------------

### Year 2

Fall Semester

Perspectives on the Humanities	Foundational Course	Social Science Core	Core class or Chinese
--------------------------------	---------------------	---------------------	-----------------------

Spring Semester

Core class, or Chinese	Core class	Social Science Core	General Elective
------------------------	------------	---------------------	------------------

### Year 3

Fall Semester

Foundational Course	Focus Course	Core or General Elective	General Elective
---------------------	--------------	--------------------------	------------------

Spring Semester

Methods Course	Focus Course	Core or General Elective	General Elective
----------------	--------------	--------------------------	------------------

### Year 4

Fall Semester

Focus Course	Methods Course	General Elective	General Elective
--------------	----------------	------------------	------------------

Spring Semester

Core class	Capstone Course	General Elective	General Elective
------------	-----------------	------------------	------------------

# BUSINESS

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BUSINESS AND FINANCE

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BUSINESS AND MARKETING

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To advance in today's global business environment, one must develop an exceptionally broad array of intellectual skills. The modern business environment demands the ability to analyze problems rigorously, to develop innovative and creative solutions, and to work effectively within the context of an organization. That in turn demands an understanding of the customers, the cultural and scientific contexts in which businesses operate, alongside an understanding of the techniques by which firms succeed in a competitive economy

A successful business combines labor and capital to produce a good or service at a price and quality that customers want to purchase. In a complex business, different individuals often take responsibility for different aspects of that endeavor, such as operations management, marketing and sales, information systems management, and financial management. An effective business education should provide students with an overview of all these fields, together with an opportunity to explore some areas in greater depth.

The business program at NYU Shanghai is designed to provide students with comprehensive preparation for the modern globalized business world. It builds upon the liberal education designed into the NYU Shanghai core curriculum. Before entering the major, students will have developed an essential set of skills in mathematics, critical thinking, and oral and written communication. They will also have acquired a familiarity with the general cultural and scientific contexts in which businesses operate. Within the major, students obtain:

- a) a deeper understanding of the modern global business environment and its economic structure;
- b) disciplinary skills in economics and statistics;
- c) a focused introduction to accounting, finance, marketing, operations, and organizational management.

The Business & Finance major helps students develop knowledge and skills in corporate finance, investments management, securities trading, financial markets, and more.

## REQUIREMENTS FOR THE MAJOR

Not every course listed is taught every semester, and in any given semester other courses may be offered that fulfill this requirement. Requirements may be met through equivalent courses in NYU's global network with prior approval. 3-credit versions of courses can generally substitute for a 4-credit requirement but note that a 2-credit course with a similar title or content will not by itself meet the requirement of the named course. All students in their senior year are required to take at least one business course which requires a paper and/or a project.

### **Business Core**

- |                |                                       |
|----------------|---------------------------------------|
| • BUSF-SHU 101 | Statistics for Business and Economics |
| • BUSF-SHU 202 | Foundations of Finance                |
| • BUSF-SHU 250 | Principles of Financial Accounting    |
| • ECON-SHU 3   | Microeconomics                        |
| • ECON-SHU 251 | Economics of Global Business          |

### **Finance Core**

- |                |                   |
|----------------|-------------------|
| • BUSF-SHU 303 | Corporate Finance |
|----------------|-------------------|

### **Business Electives - Choose Two**

- |                |  |
|----------------|--|
| • BUSF-SHU 142 | Information Technology in Business and Society |
| • BUSF-SHU 210 | Business Analytics                             |
| • BUSF-SHU 351 | Operations Management                          |
| • MGMT-SHU 301 | Management and Organizations                   |
| • MKTG-SHU 1   | Introduction to Marketing*                     |

### **Finance Electives - Choose Two**

Any 4-credit Finance elective course offered at NYU Shanghai (such as those listed below) or any 3-credit Finance elective course offered by Stern Finance Department can be counted as a Finance elective. Taking two 2-credit Finance courses will be counted as meeting the requirement of one Finance elective.

- |                |                              |
|----------------|------------------------------|
| • BUSF-SHU 304 | Futures and Options          |
| • BUSF-SHU 305 | Debt Instruments and Markets |
| • BUSF-SHU 286 | Chinese Financial Markets    |
| • BUSF-SHU 321 | Equity Valuation             |
| • BUSF-SHU 229 | Behavioral Finance           |
| • BUSF-SHU 244 | Portfolio Management         |

### **Non-Finance Electives - Choose Two from the Following Areas**

**Accounting**  
**Business Analytics\***  
**Management**  
**Marketing\*\***  
**Operations**  
**Information System**

### **China Business Studies - Choose One\*\*\***

- |                 |                                    |
|-----------------|------------------------------------|
| • BPEP-SHU 9042 | The Political Economy of East Asia |
| • BUSF-SHU 288  | Doing Business in China            |

*\* Business and Finance majors may complete a "Business Analytics track" within the major by taking Business Analytics and Information Systems in Business & Society as the Business Electives and choosing one additional Operations/Information System/Analytics course (e.g., Operations Management) in fulfilling their two "Non-Finance Elective" requirements.*

*\*\* Business and Finance majors may complete a "Marketing track" within the major by taking Introduction to Marketing as one of the Business Electives and choosing two Marketing Elective courses in fulfilling their two "Non-Finance Elective" requirements.*

*\*\*\* Students who are admitted into the Business Honors Program and conduct a China related research may fulfill the China Business Studies requirement with the credits from Business Honors Program.*

## **Business Minor**

### **Required Courses**

- |                |  |
|----------------|--|
| • BUSF-SHU 101 | Statistics for Business and Economics  |
| • BUSF-SHU 250 | Principles of Financial Accounting   |
| • ECON-SHU 3   | Microeconomics   |
| • ECON-SHU 251 | Economics of Global Business (Students can take Intro to Macro and Intermediate Macro to substitute EGB) |
| • MATH-SHU 121 | Calculus   |

## **Choose One Elective Course**

Please note that the business minor elective list below is complete, no courses outside of the list will be approved.

- |                |  |
|----------------|--|
| • BUSF-SHU 142 | Information Technology in Business and Society |
| • BUSF-SHU 202 | Foundations of Finance                         |
| • BUSF-SHU 210 | Business Analytics                             |
| • BUSF-SHU 303 | Corporate Finance                              |
| • BUSF-SHU 351 | Operations Management                          |
| • MGMT-SHU 301 | Management and Organizations                   |
| • MKTG-SHU 1   | Introduction to Marketing                      |

Economics majors must complete two of the additional courses listed below to complete the minor within the double counting limits.

- |                |  |
|----------------|--|
| • BUSF-SHU 142 | Information Technology in Business and Society |
| • BUSF-SHU 202 | Foundations of Finance                         |
| • BUSF-SHU 210 | Business Analytics                             |
| • BUSF-SHU 351 | Operations Management                          |
| • MGMT-SHU 301 | Management and Organizations                   |
| • MKTG-SHU 1   | Introduction to Marketing                      |

# BUSINESS AND FINANCE

## SAMPLE SCHEDULE

This is just one example of how a student could organize their courses if pursuing a B&F major. It assumes a student begins taking B&F major courses in the first year. Students may propose alternative course sequences to their advisors as well.

### Year 1

#### Fall Semester

Global Perspectives on  
Society

Core Class  
(Calculus)

Core class

English, Chinese, Core or  
General Elective

#### Spring Semester

Writing as Inquiry

Principles of  
Microeconomics

Statistics for Business  
and Economics

English, Chinese, Core or  
General Elective

### Year 2

#### Fall Semester

Perspectives on  
the Humanities

Principles of Financial  
Accounting

Foundations of Finance

Core, General Elective, or  
Chinese

#### Spring Semester

Core class or General  
Elective

Economics of Global  
Business

Corporate Finance

Core, General Elective, or  
Chinese

### Year 3

#### Fall Semester

Core class or General  
Elective

Business Core Elective

Finance Elective or Non-  
Finance Elective

Core class or GE

#### Spring Semester

Core class or GE

Business Core Elective

Finance Elective or Non-  
Finance Elective

General Elective

### Year 4

#### Fall Semester

Non-Finance Elective or  
Finance Elective or  
China Business Studies

Finance Elective or Non-  
Finance Elective

General Elective

General Elective

#### Spring Semester

Non-Finance Elective or  
Finance Elective or  
China Business Studies

General Elective

General Elective

General Elective

# BUSINESS AND MARKETING

To advance in today's global business environment, one must develop an exceptionally broad array of intellectual skills. The modern business environment demands the ability to analyze problems rigorously, to develop innovative and creative solutions, and to work effectively within the context of an organization. That in turn demands an understanding of the customers, the cultural and scientific contexts in which businesses operate, alongside an understanding of the techniques by which firms succeed in a competitive economy.

A successful business combines labor and capital to produce a good or service at a price and quality that customers want to purchase. In a complex business, different individuals often take responsibility for different aspects of that endeavor, such as operations management, marketing and sales, information systems management, and financial management. An effective business education should provide students with an overview of all these fields, together with an opportunity to explore some areas in greater depth.

The business program at NYU Shanghai is designed to provide students with comprehensive preparation for the modern globalized business world. It builds upon the liberal education designed into the NYU Shanghai core curriculum. Before entering the major, students will have developed an essential set of skills in mathematics, critical thinking, and oral and written communication. They will also have acquired a familiarity with the general cultural and scientific contexts in which businesses operate. Within the major, students obtain:

- a) a deeper understanding of the modern global business environment and its economic structure;
- b) disciplinary skills in economics and statistics;
- c) a focused introduction to accounting, finance, marketing, operations, and organizational management.

The Business & Marketing major helps students develop knowledge and skills in marketing management, customer insights, brand management, pricing, and more.

## REQUIREMENTS FOR THE MAJOR

---

Not every course listed is taught every semester, and in any given semester other courses may be offered that fulfill this requirement. Requirements may be met through equivalent courses in NYU's global network with prior approval. 3-credit versions of courses can generally substitute for a 4-credit requirement but note that a 2-credit course with a similar title or content will not by itself meet the requirement of the named course. All students in their senior year are required to take at least one business course which requires a paper and/or a project.

### **Business Core**

- |                |                                       |
|----------------|---------------------------------------|
| • BUSF-SHU 101 | Statistics for Business and Economics |
| • BUSF-SHU 202 | Foundations of Finance                |
| • BUSF-SHU 250 | Principles of Financial Accounting    |
| • ECON-SHU 3   | Microeconomics                        |
| • ECON-SHU 251 | Economics of Global Business          |

### **Marketing Core**

- |              |                           |
|--------------|---------------------------|
| • MKTG-SHU 1 | Introduction to Marketing |
|--------------|---------------------------|

### **Business Electives - Choose Two**

- |                |  |
|----------------|--|
| • BUSF-SHU 142 | Information Technology in Business and Society |
| • BUSF-SHU 210 | Business Analytics                             |
| • BUSF-SHU 303 | Corporate Finance                              |
| • BUSF-SHU 351 | Operations Management                          |
| • MGMT-SHU 301 | Management and Organizations                   |

### **Marketing Electives - Choose Two**

Any 4-credit Marketing elective course offered at NYU Shanghai (such as those listed below) or any 3-credit Marketing elective course offered by Stern Marketing Department can be counted as a Marketing elective. Taking two 2-credit Marketing courses will be counted as meeting the requirement of one Marketing elective.

NOTE: For Class of 2020 and beyond, either MKTG-SHU 9 or MKTG-SHU 2 below must be chosen as one of the two Marketing electives.

### **MKTG-SHU 2 Consumer Behavior**

- |               |                                |
|---------------|--------------------------------|
| • MKTG-SHU 9  | Research for Customer Insights |
| • MKTG-SHU 3  | Advertising Management         |
| • MKTG-SHU 57 | Digital Marketing              |

### **Non-Marketing Electives - Choose Two from the Following Areas\***

**Accounting**  
**Business Analytics\***  
**Management**  
**Finance\*\***  
**Operations**  
**Information System**

### **China Business Studies - Choose One \*\*\***

- |                 |                                    |
|-----------------|------------------------------------|
| • BPEP-SHU 9042 | The Political Economy of East Asia |
| • BUSF-SHU 206  | Doing Business in China            |

*\* Business and Marketing majors may complete a "Business Analytics track" within the major by taking Business Analytics and Information Systems in Business & Society as the Business Electives and choosing one additional Operations/Information System/Analytics course (e.g., Operations Management) in fulfilling their two "Non-Marketing Elective" requirements.*

*\*\* Business and Marketing majors may complete a "Finance track" within the major by taking Corporate Finance as one of their Business Electives and choosing two Finance Elective courses in fulfilling their two "Non-Marketing Elective" requirements.*

# BUSINESS AND MARKETING

## SAMPLE SCHEDULE

This is just one example of how a student could organize their courses if pursuing a B&M major. It assumes a student begins taking B&M major courses in the first year. Students may propose alternative course sequences to their advisors as well.

### Year 1

#### Fall Semester

Global Perspectives on Society

Core Class (Calculus)

Core class

English, Chinese, Core, or General Elective

#### Spring Semester

Writing as Inquiry

Principles of Microeconomics

Statistics for Business and Economics

English, Chinese, Core, or General Elective

### Year 2

#### Fall Semester

Perspectives on the Humanities

Principles of Financial Accounting

Foundations of Finance or Introduction to Marketing

Core, General Elective, or Chinese

#### Spring Semester

Core or General Elective

Economics of Global Business

Foundations of Finance or Introduction to Marketing

Core, General Elective, or Chinese

### Year 3

#### Fall Semester

Core or General Elective

Business Core Elective

Marketing Elective or Non-Marketing Elective

Core class or GE

#### Spring Semester

Marketing Elective or Non-Marketing Elective

Business Core Elective

General Elective

General Elective

### Year 4

#### Fall Semester

Non-Marketing Elective or Marketing Elective or China Business Studies

General Elective

Non-Marketing Elective or Marketing Elective

General Elective

#### Spring Semester

Non-Marketing Elective or Marketing Elective or China Business Studies

General Elective

General Elective

General Elective

# COMPUTER SCIENCE AND ENGINEERING

COMPUTER SCIENCE

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COMPUTER SYSTEMS ENGINEERING

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DATA SCIENCE

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ELECTRICAL AND SYSTEMS ENGINEERING

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# COMPUTER SCIENCE

Computer Science at NYU Shanghai is designed to create technological leaders with a global perspective, a broad education, and the capacity to think creatively. Computer science focuses on how to design, build, and effectively use the computers and systems that we interact with every day — from the iPhones in our hands to the complex databases in our banks and hospitals and to the self-driving cars of the future. Because computer technology powers the most essential functions of business, industry, government and entertainment, computer scientists have tremendous opportunities for growth and exploration.

The Bachelor of Science in Computer Science is a rigorous program that not only covers fundamental computer science subjects - such as object-oriented programming, computer architecture, and operating systems – but provides a wide variety of elective courses, spanning artificial intelligence, game programming, natural language processing, information visualization, security and privacy, computer networking, machine learning, and database design. Students are actively encouraged to pursue research with NYU Shanghai computer science professors, all of whom are renown in their respective fields. Students are involved in an increasing number of interdisciplinary initiatives across the university, including the Center for Data Science and Analytics and the Neuroscience Research Institute.

Computer science graduates have a myriad of career paths, including: creating information technology products of the future at large and dynamic companies such as Google, Microsoft, Amazon, Apple or within exciting high-tech startups throughout the world. Entrepreneurship skills combined with computer science prowess can help in creating your own high-tech startup, pursuing careers in business or finance that leverage computer science expertise, or going on to do cutting-edge research in a PhD program. Household names such as Bill Gates, Mark Zuckerberg, Larry Page, Melisa Myers, Robin Li, and Kai-Fu Lee all began in computer science.

## REQUIREMENTS FOR THE MAJOR

**Note:** Not every course listed is taught every semester, and in any given semester other courses may be offered that fulfill this requirement. Requirements may be met through equivalent courses in NYU's global network with prior approval. 3-credit versions of courses can generally substitute for a full 4-credit course requirement. A 2-credit course with a similar title or content will not by itself meet the requirement of the named course.

### Required Major Course

- CSCI-SHU 101 Introduction to Computer Science
- MATH-SHU 235 Probability and Statistics **OR**  
(MATH-SHU 233) Theory of Probability **OR**  
(BUSF-SHU 101) Statistics for Business and Economics
- CENG-SHU 202 Computer Architecture (prereq: CSCI-SHU 11 Intro to Programming **OR**  
(CSCI-SHU 101) Intro to Computer Science) **OR**  
(CSCI-UA 201) Computer Systems Organization
- CSCI-SHU 210 Data Structures (prereq: CSCI-SHU 101 Intro to Computer Science **OR**  
(CSCI-SHU 11) Intro to Computer Programming and permission of instructor)
- CSCI-SHU 215 Operating Systems (prereq: CSCI-SHU 210 Data Structures; CENG-SHU 202 Computer Architecture Computer Systems Organization)
- CSCI-SHU 220 Algorithms (prereq: CSCI-SHU 210 Data Structures and CSCI-SHU 2314 Discrete Math)
- CSCI-SHU 2314 Discrete Mathematics (co-requisite or prereq: MATH SHU 121 Calculus)

### Computer Science Electives - Choose Four

The courses listed below are not an exhaustive list. In particular, most of the CS elective courses at Tandon, College of Arts and Sciences, or Abu Dhabi can be used as NYU Shanghai CS electives. If you would like to see if a course not listed below can count as an elective, please contact your advisor to have the course reviewed.

- CENG-SHU 201 Digital Logic
- CENG-SHU 350 Embedded Computer Systems
- CENG-SHU 304 Computer Security
- CSCI-SHU 222 Introduction to Game Programming
- CSCI-SHU 235 Information Visualization
- CSCI-SHU 304 Network Security
- CSCI-SHU 308 Computer Networking
- CSCI-SHU 310 UNIX System Programming
- CSCI-SHU 213 Introduction to Databases
- CSCI-SHU 360 Machine Learning
- CSCI-SHU 410 Software Engineering
- EENG-SHU 375 Robotic Systems
- INTM-SHU 231 Developing Web
- CSCI-SHU 188 Computer Music
- Advanced Topics in AI and Machine Learning (no number yet)

### Senior Project

#### Computer Science Minor

- CENG-SHU 202 Computer Architecture
- CSCI-SHU 101 Introduction to Computer Science (prereq: CSCI-SHU 11  
Introduction to Computer Programming or placement exam)
- CSCI-SHU 210 Data Structures
- One computer science elective course

# COMPUTER SCIENCE

## SAMPLE SCHEDULE 1

This is just one example of how a student could organize their courses if pursuing a CS major. It assumes a student begins taking CS major courses in the first year. Sample Schedule 2 offers an alternate plan that begins in the second year. Students may propose alternative schedules to their advisors as well.

### Year 1

#### Fall Semester

Global Perspectives on Society	Core Class (Calculus)	Core class (Intro to Programming/Computer Science)	English, Chinese, Core, or General Elective
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#### Spring Semester

Writing as Inquiry	Core class	Introduction to Computer Science or Data Structures	English, Chinese, Core, or General Elective
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### Year 2

#### Fall Semester

Perspectives on the Humanities	Data Structures or Computer Science Elective	Discrete Mathematics	Core, General Elective, or Chinese
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#### Spring Semester

Core class	Computer Science Elective	Computer Architecture	Core, General Elective, or Chinese
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### Year 3

#### Fall Semester

Core or General Elective	Computer Science Elective	Algorithms	General Elective
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#### Spring Semester

Core or General Elective	Computer Science Elective	Probability and Statistics or alternate courses, see pg. 161	General Elective
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### Year 4

#### Fall Semester

Operating Systems	Computer Science Elective or General Elective	General Elective	General Elective
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#### Spring Semester

Senior Project	General Elective	General Elective	General Elective
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# COMPUTER SCIENCE

## SAMPLE SCHEDULE 2

### Year 1

#### Fall Semester

Global Perspectives on Society	Core Class (Calculus)	Core class	English, Chinese, Core, or General Elective
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#### Spring Semester

Writing as Inquiry	Core class	Core or General Elective	English, Chinese, Core, or General Elective
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### Year 2

#### Fall Semester

Perspectives on the Humanities	Core class (Intro to Programming/Computer Science)	Discrete Mathematics	Core, General Elective, or Chinese
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#### Spring Semester

Computer Science Elective	Introduction to Computer Science or Data Structures	Computer Architecture	Core, General Elective, or Chinese
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### Year 3

#### Fall Semester

Computer Science Elective	Data Structures or Computer Science Elective	Probability and Statistics or alternate courses, see pg. 161	General Elective
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#### Spring Semester

Algorithms	Computer Science Elective	General Elective	General Elective
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### Year 4

#### Fall Semester

Core class	Computer Science Elective or General Elective	Operating Systems	General Elective
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#### Spring Semester

Computer Science Elective	Senior Project	General Elective	General Elective
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# COMPUTER SYSTEMS ENGINEERING

Engineering challenges of the 21st century are varied, complex, and cross-disciplinary. Ranging from the nano-scale to mega-projects, they are characterized by sustainability concerns, environmental and energy constraints, global sourcing, and humanitarian goals. In the face of global competition, dwindling natural resources and the complexity of societal needs, the leaders of technological enterprises will be those who can innovate, are inventive and entrepreneurial, and understand how technology is integrated within society. Computer Systems Engineering at NYU Shanghai is designed to create technological leaders with a global perspective, a broad education, and the capacity to think creatively. Students enjoy a learning environment conducive to creativity which is at the heart of tomorrow's technological innovations and enterprises. Today the products of computer engineering touch nearly every part of our lives. They let us chat with friends via webcams, send emails from cell phones, and withdraw cash from ATMs. But laptops and information networks aren't the only products computer engineers develop; they reconstruct genomes, design robots, and develop software to make businesses more efficient.

The Computer Systems Engineering program draws upon courses across an array of disciplines. The liberal arts core provides the intellectual breadth, a "license to learn," preparing students to thrive in a multicultural globalized world and learn and adapt quickly in areas that evolve with ever-increasing swiftness. Students not only gain a firm grounding across various science and engineering fields that underscore the technical component of an engineering education, but also draw upon courses across the curriculum to develop an understanding of cultural, political, economic, environmental, and public safety considerations. In their courses, Computer Systems Engineering students are involved in the design process and the progression of technological inventions from concept through product development and market introduction.

## REQUIREMENTS FOR THE MAJOR

**Note:** To fulfill the Core Curriculum Science requirement, students must take: 1) PHYS-SHU 91 Foundations of Physics I Honors or CCSC-SHU 50 Physics I; 2) PHYS-SHU 93 Foundations of Physics II Honors or CCSC-SHU 51 Physics II; and 3) CCSC-SHU 53 Physics II Lab.

Not every course listed is taught every semester, and in any given semester other courses may be offered that fulfill this requirement. Requirements may be met through equivalent courses in the Global Network with prior approval. 3-credit versions of courses can generally substitute for a full 4-credit course requirement. A 2-credit course with a similar title or content will not by itself meet the requirement of the named course.

### Required Major Courses

- |  |  |
|--|--|
| • CENG-SHU 201                                     | Digital Logic  |
| • CENG-SHU 202                                     | Computer Architecture  |
| • CENG-SHU 350                                     | Embedded Computer Systems  |
| • CSCI-SHU 101                                     | Introduction to Computer Science   |
| • CSCI-SHU 210                                     | Data Structures  |
| • CSCI-SHU 2314                                    | Discrete Mathematics   |
| • EENG-SHU 251                                     | Circuits   |
| • EENG-SHU 400                                     | Senior Capstone Design Project <i>(4-credit project taken in the spring semester of senior year)</i> |
| • MATH-SHU 123                                     | Multivariable Calculus   |
| • MATH-SHU 235<br>(MATH-SHU 233)                   | Probability and Statistics <b>OR</b>   |
| • MATH-SHU 265<br>(MATH-SHU 140)<br>(MATH-SHU 160) | Theory of Probability  |
|  | Linear Algebra and Differential Equations <b>OR</b>  |
|  | Linear Algebra <b>OR</b>   |
|  | Networks and Dynamics  |

### Major Electives - Choose Two

The courses listed below are not an exhaustive list. If you would like to see if a course not listed below can count as an elective, please contact your advisor to have the course reviewed.

- |                 |   |
|-----------------|---|
| • CSCI-SHU 215  | Operating Systems                           |
| • CENG-SHU 302  | Compilers                                   |
| • CENG-SHU 303  | Parallel and Distributed Computing          |
| • CENG-SHU 304  | Computer Security                           |
| • CSCI-SHU 304  | Network Security                            |
| • CSCI-SHU 308  | Computer Networking                         |
| • CSCI-SHU 310  | UNIX System Programming                     |
| • CSCI-SHU 340  | Introduction to Databases                   |
| • EENG-SHU 3193 | Very Large Scale Integration Circuit Design |
| • EENG-SHU 322  | Electronics                                 |
| • EENG-SHU 375  | Robotic Systems                             |

**Note:** Rapid Prototyping or a similar IMA course is highly recommended as a general elective.

### Computer Systems Engineering Minor

- |                                  |                                       |
|----------------------------------|---------------------------------------|
| • CENG-SHU 201                   | Digital Logic                         |
| • CENG-SHU 202<br>(CENG-SHU 350) | Computer Architecture <b>OR</b>       |
| • CSCI-SHU 11<br>(INTM-SHU 101)  | Embedded Computer Systems             |
| • CSCI-SHU 101                   | Introduction to Programming <b>OR</b> |
| • EENG-SHU 251                   | Interaction Lab                       |
|                                  | Introduction to Computer Science      |
|                                  | Circuits                              |

# COMPUTER SYSTEMS ENGINEERING

## SAMPLE SCHEDULE 1

This is just one example of how a student could organize their courses if pursuing a CSE major. It assumes a student begins taking CSE major courses in the first year. Sample Schedule 2 offers an alternate plan that begins in the second year. Students may propose alternative schedules to their advisors as well.

### Year 1

#### Fall Semester

Global Perspectives on Society

Core Class  
(Calculus)

Intro to Programming/  
Computer Science

English, Chinese, Core, or  
General Elective

#### Spring Semester

Writing as Inquiry

Introduction to  
Computer Science or  
Rapid Prototyping (or  
similar IMA course)

Multivariable Calculus

English, Chinese, Core, or  
General Elective

### Year 2

#### Fall Semester

Perspectives on  
the Humanities

Digital Logic

Physics I & Lab

Core, General Elective, or  
Chinese

#### Spring Semester

Intro to Computer  
Science or Data  
Structures

Circuits

Physics II & Lab

Core, General Elective, or  
Chinese

### Year 3

#### Fall Semester

Data Structures or Core  
class

Computer Architecture

Probability and Statistics  
or Theory of Probability

Computer Systems  
Engineering  
Elective

#### Spring Semester

Discrete Math

Linear Algebra and  
Differential Equations or  
alternative course

Embedded Computer

General Elective

### Year 4

#### Fall Semester

Core or General Elective

Core or General Elective

Computer Systems  
Engineering  
Elective

General Elective

#### Spring Semester

Core or General Elective

Senior Capstone Design  
Project

General Elective

General Elective

# COMPUTER SYSTEMS ENGINEERING

## SAMPLE SCHEDULE 2

### Year 1

#### Fall Semester

Global Perspectives on Society	Core Class (Calculus)	Physics I & Lab	English, Chinese, Core, or General elective
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#### Spring Semester

Writing as Inquiry	Core or General Elective	Physics II & Lab	English, Chinese, Core, or General Elective
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### Year 2

#### Fall Semester

Perspectives on the Humanities	Intro to Programming/ Computer Science	Multivariable Calculus	Core class
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#### Spring Semester

Circuits	Introduction to Computer Science or Rapid Prototyping (or similar IMA course)	Probability and Statistics or Theory of Probability	Core or General Elective
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### Year 3

#### Fall Semester

Embedded Computer Systems	Intro to Computer Science or Data Structures	Linear Algebra and Differential Equations <i>or alternative course</i>	Computer Systems Engineering Elective
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#### Spring Semester

Digital Logic	Data Structures or Core class	Discrete Math	General Elective
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### Year 4

#### Fall Semester

Core class	Computer Systems Engineering Elective	General Elective	General Elective or Chinese
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#### Spring Semester

Senior Design Project	Computer Architecture	General Elective	General Elective or Chinese
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# DATA SCIENCE

Data Science at NYU Shanghai is designed to create data-driven leaders with a global perspective, a broad education, and the capacity to think creatively. Data science involves using computerized methods to analyze massive amounts of data and to extract knowledge from them. Data science addresses a wide-range of data types, including scientific and economic numerical data, textual data, and image and video data. This new discipline draws from methodologies and tools in several well-established fields, including computer science, statistics, applied mathematics, and economics. Data science has applications in just about every academic discipline, including sociology, political science, digital humanities, linguistics, finance, marketing, urban informatics, medical informatics, genomics, image content analysis, and all branches of engineering and the physical sciences. The importance of data science is expected to accelerate in the coming years, as data from the web, mobile sensors, smartphones, and Internet-connected instruments continues to grow.

Students who complete the major will not only have expertise in computer programming, statistics, and data mining, but also know how to combine these tools to solve contemporary problems in a discipline of their choice, including the social science, physical science, and engineering disciplines. Upon graduation, data science majors have numerous career paths. Data Science majors can go on to graduate school in data science, computer science, social science, business, finance, medicine, law, linguistics, education, and so on. Outside of academia, there are also myriad career paths. Not only can graduates pursue careers with traditional data-driven computer-science companies and startups such as Google, Facebook, Amazon, and Microsoft, but also they can also be valuable to companies in the transportation, energy, medical, and financial sectors. Graduates can also pursue careers in the public sector, including urban planning, law enforcement, and education.

## REQUIREMENTS FOR THE MAJOR

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**Note:** Not every course listed is taught every semester, and in any given semester other courses may be offered that fulfill this requirement. Requirements may be met through equivalent courses in the global network with prior approval. 3-credit versions of courses can generally substitute for a full 4-credit course requirement. A 2-credit course with a similar title or content will not by itself meet the requirement of the named course.

### Foundational Courses

- CSCI-SHU 101 Introduction to Computer Science
- MATH-SHU 235 Probability and Statistics **OR**
- (MATH-SHU 233) Theory of Probability **OR**
- (BUSF-SHU 101) Statistics for Business and Economics

### Required Major Courses

#### Programming & Computer Science

- CSCI-SHU 210 Data Structures

#### Mathematics

- MATH-SHU 123 Multivariable Calculus **OR**
- (ECON-SHU 5) Math for Economists (2 credits or 4 credits)
- MATH-SHU 140 Linear Algebra

#### Data Analysis

- CSCI-SHU 235 Information Visualization
- CSCI-SHU 360 Machine Learning
- ECON-SHU 301 Econometrics or MATH-SHU 234 The Mathematics of Statistics and Data Science

#### Data Management

- CSCI-SHU Introduction to Databases
- Senior Project

#### Concentration Courses

- 2 domain-area courses

**Note:** Students who are strong in mathematics are encouraged to take Analysis I and Analysis II (in place of Multivariable Calculus), Honors Linear Algebra I (in place of Linear Algebra), and Theory of Probability.

### Concentration Options

#### Domain-Area Courses for Concentration in Finance

- ECON-SHU 3                      Microeconomics
- BUSF-SHU 250                Principles of Financial Accounting
- BUSF-SHU 202                Foundations of Finance
- BUSF-SHU 303                Corporate Finance
- 14 courses total

#### Domain-Area Courses for Concentration in Economics

- ECON-SHU 3                      Microeconomics
- ECON-SHU 1                    Macroeconomics
- Senior Project

- Students can take Math for Economists (2 credits or 4 credits) en lieu of Multivariable Calculus.
- 6 economics courses in program.
- 12 courses total.

#### Domain-Area Courses for Concentration in Genomics

- BIOL-SHU 21                    Foundations of Biology 1 and lab
- BIOL-SHU 22                    Foundations of Biology 2 and lab
- BIOL-SHU 261                  Bioinformatics
- Foundations of Biology 1 can count as core curriculum course.
- 12 courses total.

#### Domain-Area Courses for Concentration in Computer Science

Two courses from:

- CENG-SHU 202                Computer Architecture\* **OR**  
(CSCI-UA 201)                Computer Systems Organization
- CSCI-SHU 215                Operating Systems
- CSCI-SHU 2314               Discrete Mathematics  
(CS-UY 2413 /                Algorithms  
CSCI-UA 310 /  
CSCI-SHU 220)
- 12 courses total.

### Domain-Area Courses for Concentration in Mathematics

Students must take two additional courses from the following list:

- MATH-SHU 328 Honors Analysis I
  - MATH-SHU 329 Honors Analysis II
  - MATH-SHU 233 Theory of Probability
  - MATH-SHU 234 The Mathematics of Statistics and Data Science
  - ECON-SHU 301 Econometrics
  - MATH-SHU 345 Introduction to Stochastic Processes
  - MATH-SHU 142 Honors Linear Algebra 2
- 12 courses total.

### Domain-Area Courses for Concentration in Artificial Intelligence

Two courses from:

- CSCI-UA 480 Natural Language Processing
  - CSCI-SHU 372 Artificial Intelligence  
(/ CS-UY 4613)
  - Advanced Topics in Machine Learning
- 12 courses total.

### Domain-Area Courses for Concentration in Social Science

Two courses from:

- ECON-SHU 3 Microeconomics
  - PSYC-SHU 101 Introduction to Psychology
  - SOCS-SHU 150 Introduction to Comparative Politics
  - SOCS-SHU 160 Introduction to International Politics
  - SOCS-SHU 141 Methods of Social Research
  - ECON-SHU 213 Causal Inference in the Social Sciences
  - SOCS-SHU 318 Ethnographic Methods
- 12 courses total.

### Data Science Minor

- CSCI-SHU 101 Introduction to Computer Science (prereq: CSCI-SHU 11 Intro to Programming or placement exam)
- CSCI-SHU 210 Data Structures
- CSCI-SHU 360 Machine Learning
- ECON-SHU 301 Econometrics
- MATH-SHU 235 Probability and Statistics **OR**  
(MATH-SHU 233) Theory of Probability **OR**  
(BUSF- SHU 101) Statistics for Business and Economics

# DATA SCIENCE

## SAMPLE SCHEDULE 1

This is just one example of how a student could organize their courses if pursuing a DS major. It assumes a student begins taking DS major courses in the first year. Sample Schedule 2 offers an alternate plan that begins in the second year. Students may propose alternative schedules to their advisors as well.

### Year 1

#### Fall Semester

Global Perspectives on Society	Core Class (Calculus)	Core class (Intro to Programming/Computer Science)	English, Chinese, Core, or General Elective
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#### Spring Semester

Writing as Inquiry	Probability and Statistics or alternate courses, see pg. 169	Machine Learning	English, Chinese, Core, or General Elective
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### Year 2

#### Fall Semester

Perspectives on the Humanities	Intro to Computer Science or Data Structures	Multivariable Calculus OR Math for Economists	Core, General Elective, or Chinese
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#### Spring Semester

Core class	Data Structures or Domain-area class	Econometrics OR The Mathematics of Statistics and Data Science	Core, General Elective, or Chinese
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### Year 3

#### Fall Semester

Core or General Elective	Databases	Domain-area class	General Elective
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#### Spring Semester

Core or General Elective	Linear Algebra	Domain-area class or General Elective	General Elective
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### Year 4

#### Fall Semester

Information Visualization	General Elective	General Elective	General Elective
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#### Spring Semester

Senior Project	General Elective	General Elective	General Elective
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# DATA SCIENCE

## SAMPLE SCHEDULE 2

### Year 1

#### Fall Semester

Global Perspectives on Society	Core Class (Calculus)	Core class	English, Chinese, Core, or General Elective
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#### Spring Semester

Writing as Inquiry	Core class	Core or General Elective	English, Chinese, Core, or General Elective
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### Year 2

#### Fall Semester

Perspectives on the Humanities	Core class (Intro to Programming/Computer Science)	Multivariable Calculus OR Math for Economists	Core, General Elective, or Chinese
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#### Spring Semester

Machine Learning	Intro to Computer Science or Data Structures	Probability and Statistics or alternate courses, see pg. 169	Core, General Elective, or Chinese
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### Year 3

#### Fall Semester

Econometrics OR The Mathematics of Statistics and Data Science	Data Structures or Domain-area class	Databases	General Elective
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#### Spring Semester

Core class	Linear Algebra	Domain-area class	General Elective
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### Year 4

#### Fall Semester

Information Visualization	General Elective	Domain-area class or General Elective	General Elective
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#### Spring Semester

Senior Project	General Elective	General Elective	General Elective
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# ELECTRICAL AND SYSTEMS ENGINEERING

Engineering challenges of the 21st century are varied, complex, and cross-disciplinary. Ranging from the nano-scale to mega-projects, they are characterized by sustainability concerns, environmental and energy constraints, global sourcing, and humanitarian goals. In the face of global competition, dwindling natural resources and the complexity of societal needs, the leaders of technological enterprises will be those who can innovate, are inventive and entrepreneurial, and understand how technology is integrated within society. Computer Systems Engineering at NYU Shanghai is designed to create technological leaders with a global perspective, a broad education, and the capacity to think creatively. Students enjoy a learning environment conducive to creativity which is at the heart of tomorrow's technological innovations and enterprises. Today the products of computer engineering touch nearly every part of our lives. They let us chat with friends via webcams, send emails from cell phones, and withdraw cash from ATMs. But laptops and information networks aren't the only products computer engineers develop; they reconstruct genomes, design robots, and develop software to make businesses more efficient.

The Computer Systems Engineering program draws upon courses across an array of disciplines. The liberal arts core provides the intellectual breadth, a "license to learn," preparing students to thrive in a multicultural globalized world and learn and adapt quickly in areas that evolve with ever-increasing swiftness. Students not only gain a firm grounding across various science and engineering fields that underscore the technical component of an engineering education, but also draw upon courses across the curriculum to develop an understanding of cultural, political, economic, environmental, and public safety considerations. In their courses, Computer Systems Engineering students are involved in the design process and the progression of technological inventions from concept through product development and market introduction.

## REQUIREMENTS FOR THE MAJOR

**Note:** To fulfill the Core Curriculum Science requirement, students must take: 1) PHYS-SHU 91 Foundations of Physics I Honors or CCSC-SHU 50 Physics I; 2) PHYS-SHU 93 Foundations of Physics II Honors or CCSC-SHU 51 Physics II; and 3) CCSC-SHU 53 Physics II Lab.

Not every course listed is taught every semester, and in any given semester other courses may be offered that fulfill this requirement. Requirements may be met through equivalent courses in NYU's global network with prior approval. 3-credit versions of courses can generally substitute for a full 4-credit course requirement. A 2-credit course with a similar title or content will not by itself meet the requirement of the named course.

### Required Major Courses

- CENG-SHU 201 Digital Logic
- CSCI-SHU 11 Introduction to Programming **OR**  
(CSCI-SHU 101) Introduction to Computer Science
- EENG-SHU 2054 Signals and Systems
- EENG-SHU 251 Circuits
- EENG-SHU 304 Electromagnetic Fields and Waves
- EENG-SHU 322 Electronics
- EENG-SHU 400 Senior Capstone Design Project (*4-credit project taken in the spring semester of senior year*)  
(/EENG-SHU 401)
- MATH-SHU 123 Multivariable Calculus
- MATH-SHU 235 Probability and Statistics **OR**  
(MATH-SHU 233) Theory of Probability
- MATH-SHU 265 Linear Algebra and Differential Equations **OR**  
(MATH-SHU 140) Linear Algebra **OR**  
(MATH-SHU 160) Networks and Dynamics

### Electives

#### Choose 2 from these 4 courses:

- EENG-SHU 356 Communication Systems
- EENG-SHU 364 Feedback Control
- EE-UY 112 Fundamentals of Electronics II (*offered in New York*)  
(/EE-UY 3124)
- EE-UY 3824 Electric Energy Conversion Systems (*offered in New York*)

#### Choose 2 more from the following list:

- CENG-SHU 350 Embedded Computer Systems
- CENG-SHU 351 Computer Networks
- EENG-SHU 306 Instrumentation, Sensors and Actuators
- EENG-SHU 3193 Very Large Scale Integrated (VLSI) Circuit Design
- EENG-SHU 355 Digital Signal Processing
- EENG-SHU 356 Communication Systems
- EENG-SHU 375 Robotic Systems

*Note: Rapid Prototyping or a similar IMA course is highly recommended as a general elective.*

### Electrical and Systems Engineering Minor

- CENG-SHU 201 Digital Logic
- CSCI-SHU 11 Introduction to Programming **OR**  
(INTM-SHU 101) Interaction Lab
- EENG-SHU 251 Circuits
- Electrical and Systems Engineering Elective



# ELECTRICAL AND SYSTEMS ENGINEERING

## SAMPLE SCHEDULE 1

This is just one example of how a student could organize their courses if pursuing a ESE major. It assumes a student begins taking ESE major courses in the first year. Sample Schedule 2 offers an alternate plan that begins in the second year. Students may propose alternative schedules to their advisors as well.

### Year 1

#### Fall Semester

Global Perspectives on Society

Core Class (Calculus)

Intro to Programming/Computer Science

English, Chinese, Core, or General Elective

#### Spring Semester

Writing as Inquiry

Multivariable Calculus

Linear Algebra and Differential Equations or alternate course

English, Chinese, Core, or General Elective

### Year 2

#### Fall Semester

Perspectives on the Humanities

Physics I & Lab

Digital Logic

Core, General Elective, or Chinese

#### Spring Semester

Core or General Elective

Physics II & Lab

Circuits

Core, General Elective, or Chinese

### Year 3

#### Fall Semester

Core or General Elective

Electronics

Electromagnetic Fields and Waves

Signals and Systems

#### Spring Semester

Electrical and Systems Engineering Elective

Electrical and Systems Engineering Elective

General Elective

General Elective

### Year 4

#### Fall Semester

Probability and Statistics or Theory of Probability

Electrical and Systems Engineering Elective

Electrical and Systems Engineering Elective

General Elective

#### Spring Semester

Senior Capstone Design Project

General Elective

General Elective

General Elective

# ELECTRICAL AND SYSTEMS ENGINEERING

## SAMPLE SCHEDULE 2

### Year 1

#### Fall Semester

Global Perspectives on Society	Core Class (Calculus)	Physics I & Lab	English, Chinese, Core, or General Elective
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#### Spring Semester

Writing as Inquiry	Multivariable Calculus	Physics II & Lab	Intro to Programming/Computer Science	2-credit English or Chinese (if available)
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### Year 2

#### Fall Semester

Perspectives on the Humanities	Digital Logic	Core Class	Core Class
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#### Spring Semester

Core or General Elective	Circuits	Linear Algebra and Differential Equations or alternate course	Core or General Elective
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### Year 3

#### Fall Semester

Electronics	Signals and Systems	Electromagnetic Fields and Waves	General Elective
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#### Spring Semester

Probability and Statistics or Theory of Probability	Electrical and Systems Engineering Elective	Electrical and Systems Engineering Elective	General Elective
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### Year 4

#### Fall Semester

Electrical and Systems Engineering Elective	Electrical and Systems Engineering Elective	General Elective or Chinese	General Elective
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#### Spring Semester

Senior Capstone Design Project	General Elective or Chinese	General Elective	General Elective
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SELF-  
DESIGNED  
HONORS  
MAJOR

Students at NYU Shanghai can apply to craft and complete a Self-Designed Honors major, rather than one of the existing majors at the campus. This major enables a small number of very capable and highly motivated students to pursue a plan of study that brings together courses from more than one NYU department or program. During their sophomore year, students compose their academic plan for the major in consultation with their two faculty advisers for their self-designed program of study as well as with the Assistant Provost for Academic Affairs. Their two faculty advisors have to be from different majors and one has to be from a relevant department in New York if more than three of the required classes are from a major that exists in New York but not in Shanghai. By spring of the sophomore year, the plan of study must be submitted to and approved by the Academic Standards Committee.

This NYU Shanghai major serves students who can realize their interdisciplinary goals within the NYU's global network, drawing on courses from any of the study away sites and degree-granting campuses. The honors major has prerequisites for entry (3.75 GPA; students must maintain a 3.65 GPA to remain in the major) and entails a heavy commitment to honors-level work, including independent research under faculty supervision.

# SELF-DESIGNED HONORS MAJOR

# REQUIREMENTS FOR MINORS

The courses required for NYU Shanghai Minors are:

## Biology Minor

### A. Molecular and Cell Biology Minor

- BIOL-SHU 21 Foundations of Biology I
- BIOL-SHU 22 Foundations of Biology II
- BIOL-SHU 123 Foundations of Biology Lab
- BIOL-SHU 30 Genetics **OR**  
(Formerly 264)
- (BIOL-SHU 263) Developmental Biology
- BIOL-UA 36 At the Bench: Applied Molecular Biology DNA Techniques **OR**  
(BIOL-UA 37) At the Bench: Applied Cell Biology **OR**  
One approved class to count towards this minor

### B. Genomics and Bioinformatics Minor

- BIOL-SHU 21 Foundations of Biology I
- BIOL-SHU 22 Foundations of Biology II
- BIOL-SHU 123 Foundations of Biology Lab
- BIOL-SHU 261 Genomics and Bioinformatics
- BIOL-SHU 267 Microbiology and Microbial Genomics **OR**  
(BIOL-GA 1128) Systems Biology **OR**  
(BIOL-UA 58) Evolution

## Business Minor

### Required Courses

- BUSF-SHU 101 Statistics for Business and Economics
- BUSF-SHU 250 Principles of Financial Accounting
- ECON-SHU 3 Microeconomics
- ECON-SHU 251 Economics of Global Business (Students can take Intro to Macro and Intermediate Macro to substitute EGB)
- MATH-SHU 121 Calculus

### Choose One Elective Course

Please note that the business minor elective list below is complete, no courses outside of the list will be approved.

- BUSF-SHU 142 Information Technology in Business and Society
- BUSF-SHU 202 Foundations of Finance
- BUSF-SHU 210 Business Analytics
- BUSF-SHU 303 Corporate Finance
- BUSF-SHU 351 Competitive Advantage from Operations
- MGMT-SHU 301 Management and Organizations
- MKTG-SHU 1 Introduction to Marketing

Economics majors must complete two of the additional courses listed below to complete the minor within the double counting limits.

- BUSF-SHU 142 I nformation Technology in Business and Society
- BUSF-SHU 202 Foundations of Finance
- BUSF-SHU 210 Business Analytics
- BUSF-SHU 351 Competitive Advantage from Operations
- MGMT-SHU 301 Management and Organizations
- MKTG-SHU 1 Introduction to Marketing

### Chemistry Minor

- |                |   |
|----------------|---|
| • CHEM-SHU 125 | Foundations of Chemistry I                      |
| • CHEM-SHU 126 | Foundations of Chemistry II                     |
| • CHEM-SHU 127 | FoS Chemistry Laboratory                        |
| • CHEM-SHU 225 | Organic Chemistry I + Organic Chemistry I Lab   |
| • CHEM-SHU 226 | Organic Chemistry II + Organic Chemistry II Lab |

### Chinese Minor

16 credits of Chinese language above Elementary II are required to complete the minor. Only 4 credits of those 16 can double-count with another degree requirement. Elementary I and II do not count toward fulfilling the requirements. Typical plan of study: Intermediate I, Intermediate II, Advanced I, and Advanced II.

A student who passes out of Intermediate I&II or Advanced I&II will have to **replace the course(s) they placed out of with other Chinese language classes higher than the level(s) they placed out of**. Only 4 credits of those 16 can double-count with another major or minor degree requirement.

#### Example 1:

GCS major who doesn't place out of Intermediate I must do the following for the Chinese minor:

- Intermediate I
- Intermediate II
- Advanced I and Advanced II (but can only count one towards the minor, because they are also required for GCS major.)
- Other course higher than Advanced II

#### Example 2:

Students who placed out of Advanced Chinese I and is taking Advanced Chinese II now are aiming for a Chinese minor. They can get a Chinese minor by taking:

- Advanced Chinese II (double counting one course between the major and the minor).
- 3 additional Chinese courses, such as Advanced High Business Chinese, Readings in Chinese Culture I, and Readings in Chinese Culture II.

### Computer Science Minor

- |                |   |
|----------------|---|
| • CENG-SHU 202 | Computer Architecture                                   |
| • CSCI-SHU 101 | Introduction to Computer Science (prereq: CSCI-SHU 11)  |
|                | Introduction to Computer Programming or placement exam) |
| • CSCI-SHU 210 | Data Structures   |
| • One          | computer science elective course                        |

### Computer Systems Engineering Minor

- |                |                                       |
|----------------|---------------------------------------|
| • CENG-SHU 201 | Digital Logic                         |
| • CENG-SHU 202 | Computer Architecture <b>OR</b>       |
| (CENG-SHU 350) | Embedded Computer Systems             |
| • CSCI-SHU 11  | Introduction to Programming <b>OR</b> |
| (INTM-SHU 101) | Interaction Lab                       |
| • CSCI-SHU 101 | Introduction to Computer Science      |
| • EENG-SHU 251 | Circuits                              |

### Creative Writing Minor

- |                 |  |
|-----------------|--|
| • WRIT-SHU 159  | Introduction to Creative Writing (a prerequisite for the intermediate and advanced craft courses). |
| • Two           | intermediate/advanced craft courses  |
| • An additional | intermediate/advanced craft course or a designated elective  |

**Data Science Minor**

- CSCI-SHU 101 Introduction to Computer Science (prereq: CSCI-SHU 11 Intro to Programming or placement exam)
- CSCI-SHU 210 Data Structures
- CSCI-SHU 360 Machine Learning
- ECON-SHU 301 Econometrics
- MATH-SHU 235 Probability and Statistics **OR**  
(MATH-SHU 233) Theory of Probability **OR**  
(BUSF-SHU 101) Statistics for Business and Economics **OR**  
(BIOL-SHU 42) Biostatistics

**Economics Minor**

- BUSF-SHU 101 Statistics for Business and Economics **OR**  
(MATH-SHU 235) Probability and Statistics **OR**  
(MATH-SHU 233) Theory of Probability **OR**  
(MATH-SHU 234) Mathematical Statistics
- ECON-SHU 1 Principles of Macroeconomics **OR**  
(ECON-SHU 251) Economics of Global Business
- ECON-SHU 3 Microeconomics **OR**  
(ECON-SHU 2) Principles of Microeconomics
- ECON-SHU 202 Intermediate Macroeconomics **OR**  
(ECON-SHU 10) Intermediate Microeconomics
- Two additional 4-credit courses from the Economics elective list

**Electrical and Systems Engineering Minor**

- CENG-SHU 201 Digital Logic
- CSCI-SHU 11 Introduction to Programming OR INTM-SHU 101 Interaction Lab
- EENG-SHU 251 Circuits
- Electrical and Systems Engineering Elective

**Global China Studies minor**

Four classes from the required and elective list of Global China Studies courses, of which at least one must be from the required list. Students may take up to two advanced or post-advanced language courses in fulfillment of this minor.

**History Minor**

Four classes from the required and elective list of Humanities major History courses.

**Humanities Minor**

Four classes from the required and elective list of Humanities major courses.

**Interactive Media Arts Minor**

- INTM-SHU 101 Interaction Lab
- INTM-SHU 120 Communications Lab
- 7-8 credits from the Interactive Media Arts Elective List

**Literature Minor**

Four classes from the required and elective list of Humanities major Literature courses.

**Mathematics Minor**

Four 4-credit mathematics courses at the Calculus level or higher. Of current math offerings, Mathematics for Economists and Mathematical Functions do not count for the minor.

**Neural Science Minor**

- BIOL-SHU 21 Foundations of Biology I
- BIOL-SHU 22 Foundations of Biology II

- BIOL-SHU 123 FoS Biology Laboratory
- NEUR-SHU 201 Introduction to Neural Science
- NEUR-SHU 251 Behavioral and Integrative Neuroscience **OR**
- (NEUR-SHU 301) Cellular and Molecular Neuroscience

### **Philosophy minor**

Four classes from the required and elective list of Humanities major Philosophy courses.

### **Physics Minor**

- PHYS-SHU 71 FoS Physics Laboratory
- PHYS-SHU 91 Foundations of Physics I Honors **OR**
- (CCSC-SHU 50) Physics I
- PHYS-SHU 93 Foundations of Physics II Honors **OR**
- (CCSC-SHU 51) Physics II
- PHYS-SHU 94 Physics II Laboratory
- Two Physics Elective Courses (Must bring total credits of the minor courses to 16 or more)

### **Social Science Minor**

Students who wish to complete a minor in Social Science must complete one of the Methods courses from the list of approved Social Science Methods courses and three additional courses from the list of approved Social Science courses.

### **Global Network Minor**

Students can complete a Global Network (GN) Minor using classes from one or more of the eleven Study Away Sites in NYU's global network. This option enables capable and highly motivated students to pursue a plan of study that brings together courses from more than one NYU department or program taught at a study away site.

These minors serve students who can realize their interdisciplinary goals within the NYU's global network drawing on courses from any of the study away sites. Even if all of the classes are from a single department in one of the other degree-granting campuses or is identical to a minor offered on one of those campuses, the GN minor is an NYU Shanghai minor and will be identified as such on the student's transcript. The other requirements and limitations for these minors are identical with the standard ones identified above for all minors.

GN minors require at least 2 courses from global sites and may be completed using courses taken at the associated study away site or degree-granting campuses. Courses and therefore minor availability may vary by semester, students should see each academic center's website for specific classes, and plan with their academic advisor how to complete the minor. Pursuing a GN minor does not guarantee acceptance to study at a study away site. A list of approved global network minors is available on the NYU Shanghai study away website. The courses that have been reviewed to count towards GN minors are also posted to the NYU Shanghai study away website. As students inquire about new courses, they are reviewed and added to the sheet.

### **Cross School Minor**

Some cross-school minors offered by NYU Schools are available to NYU Shanghai students as listed on the NYU Cross-School Minors website. Students who successfully complete Minors, which do not have analogous minors in Shanghai, will have them identified by name as a Minor on the student transcript. Where there is an analogous minor student may use courses for the cross-school minor which are equivalent to courses required for the Shanghai minor to complete the Shanghai minor. For example, courses required for the Business Studies minor offered through Stern may count toward the Shanghai Business minor but not toward the cross-school minor.



# **{ Part VII }**

## **Course Descriptions**

## ART-SHU 210

### Introduction to Studio Art - Chinese Traditional Methods in Contemporary Art

This course will be an introduction to studio art for students who want to learn traditional Chinese art forms with contemporary expression, to traverse both cultural and temporal barriers of visual arts. These include calligraphy and ink painting as seen from a modern perspective. Students will examine the content of artwork, including ideas in contemporary and traditional art, both Chinese and international, and build various skills to translate ideas into reality. The course includes a study of ancient Chinese paintings, drawings of still-lives, as well as visits to local artists, galleries, and museums. Class time will be devoted to individual projects and critiques, lectures, and group discussions. This course is open to all students with or without an art background. Note that attendance in the first class meeting is mandatory, otherwise you will be dropped from the course.

Prerequisite: None.

## ART-SHU 211

### Foundations in Painting

It is an exciting time in contemporary painting. The rules have changed. Artists are making paintings no longer limited by a particular medium or set of mediums. In the "Now," painting is made up of non-hierarchical inclusions of materials, many of which are non-art-mediums adopted for studio use, and various approaches that mirror the complexities and experiences of our daily lives. At the forefront of this non-hierarchical, cross-disciplinary attitude are artists such as Shahzia Sikander, Charline von Heyl, Mark Bradford, Os Gemeos, and Beatriz Mhazes. Students will learn or revisit foundational techniques, modes, forms, and applications – composition, color, form, space, surface, and texture using materials such as acrylic and oil paint, various mediums, ink, collage and transfer techniques, and reductive methods. Further, they will explore the implications and uses of materiality as a subject as well as a tool or medium. Students will also engage in selected readings to ground their visual pursuits in an historical and classical understanding as well as a theoretical, critical and contemporary context. Students will become proficient in the fundamental skills needed to write an artist statement, art critique and a work-in-progress conceptual outline.

Prerequisite: None

## ART-SHU 225A

### Contemporary Dance

For nonmajors. This course is an introduction to the fundamental and intermediary concepts of dance through learning a diversity of movement styles. Students will gain an appreciation for the expressive and dynamic capacity of the body, recognizing shared, unifying attributes as well as those that are unique and intrinsic to each style. The thorough warm up places an emphasis on breath, proper placement, and building stamina for general health. Short dances and sequences from Jazz, Hip Hop, Contemporary, and Modern Dance will be learned to sharpen kinesthetic memory, foster joy in movement, and express the timelessness of all dance. Students enrolling for 4 credits will learn the historical and cultural background behind the dances and 2 credits fulfill just the dance requirement. All levels are welcome. No previous experience is required. This class counts towards the Tisch School of the Arts Dance Minor.

## ART-SHU 225B

### Dance.

This course is an introduction to the fundamental concepts of dance through learning a diversity of movement styles. Students will gain an appreciation for the expressive and dynamic capacity of the body, recognizing shared, unifying attributes as well as those that are unique and intrinsic to each style. The thorough warm up places an emphasis on breath and proper placement for safe practices and general health. It includes floor work, stretching and strength exercises and patterns that incorporate elements of tai qi, Lester Horton and Alexander techniques. Short dances and sequences from Jazz/Hip Hop, Modern, and Chinese Dance will be learned to sharpen kinesthetic memory, foster joy in movement, and express the timelessness of all dance. 4 credit section includes cultural, historical, and social components of the dance forms as well as participation in the final performance. All levels are welcome. No previous experience is required.

## ART-SHU 239.2

### Choreography & Performance

The purpose of this 2-credit course is to enable the student to gain an appreciation and knowledge of team building skills, collaboration, and the creative process through movement exploration, choreography and performance. Through individual and collective participation in bodywork, contact improvisation, developing phrases, and playing an active role in the final performance, students are physically and conceptually challenged and informed. Through better understanding space, control, aesthetics, alignment, and musicality as well as practicing learning strategies within a duet/group context, the student gains an appreciation not only for self and collective discovery, but also for the creative process underlining and shaping personal, artistic expression. All levels are welcome. No previous experience is required.

## ART-SHU 239.4

### Choreography & Performance

The purpose of this 4-credit course is to enable the student to gain an appreciation and knowledge of team building skills, collaboration, and the creative process through movement exploration, choreography and performance. Through individual and collective participation in bodywork, contact improvisation, developing phrases, and playing an active role in the final performance, students are physically and conceptually challenged and informed. Through better understanding space, control, aesthetics, alignment, and musicality as well as practicing learning

strategies within a duet/group context, the student gains an appreciation not only for self and collective discovery, but also for the creative process underlining and shaping personal, artistic expression. All levels are welcome. No previous experience is required.

ART-SHU 250

### **Visual Culture and Social Art Practice: Collaborations and Community Interactions**

What role does art play in our contemporary society? Who is it for, what does it represent, and why? How can we, as visual culture participants and producers, ensure that we are relevant, engaged, engaging, and inclusive? How does locality and culture play a part in how we think about and present what we are making?

The purpose of this course is two-fold. Students will gain an understanding of Social Art Practice in China (including projects such as Bishan Village, The China Rural Reconstruction Academy, Grass Stage and the Xucun Project) and engage directly with Shanghai through outreach and collaborative projects. This is an opportunity for students to interact artistically and directly with Chinese communities as well as consider themselves in relation to those communities. Through the lens of social and relational art practices, they will develop and realize projects specific to various communities in Shanghai. Through open, experimental, and cross-disciplinary studio practice, students will develop one comprehensive, semester-long, collaborative project.

Prerequisite: None.

ART-SHU 255

### **Printmaking in an Expanded Field**

Printmaking in China has a long and varied history. Originally, stamps and official seals were carved out of stone, jade, and other hard materials. Eventually, softer wood was used as it was vastly easier to carve and more economical, thus establishing a tradition of Chinese relief printing on a vast scale. Students will gain an understanding of printmaking in China through its history, development and contemporary practices. They will learn techniques, modes, forms, and applications of printmaking – relief prints (stamps and wood cuts), monotypes (transfers and rubbings), intaglio (dry point engraving), stencils, and mixed media technique – in a conceptual framework of contemporary printmaking practices and global visual culture.

Students will also engage in selected readings to ground their visual pursuits in an historical and classical understanding as well as a theoretical, critical and contemporary context. Through a semester-long research project, they will be challenged to critically examine their own work in a contemporary global context.

Prerequisite: None.

ART-SHU 301

### **Introduction to Photography I**

This course will be an introduction to the use of photography as a medium of documentation and art expression.

The student will use photography to witness and create images to begin to understand their experience in Shanghai, and understand photography as an art medium. Basic digital photography techniques will be taught, including use of a digital camera and Photoshop. Lectures, technical demonstrations, and group critiques, as well as presentations by guest photographers will be included. Assignments on individual photographers and artists will be required. This course is for beginning photography students with minor or no experience with photography. Students will provide their own cameras. This course is open to all students with or without an art background. Note that attendance in the first class meeting is mandatory, otherwise you will be dropped from the course.

Prerequisite: None.

ART-SHU 306

### **Moving Images**

Moving images have become one of the most widely used media art forms because it allows both the artistic concentration of photography & the free-flowing imagery of movement. Students acquire rudimentary skills in shooting & editing while working toward a personal statement in video. This course is open to all students with or without an art background. Note that attendance in the first class meeting is mandatory, otherwise you will be dropped from the course.

Prerequisite: None.

ART-SHU 380

### **Projects in Photography**

In 1836, Talbot, the English inventor, thought of photography as a "drawing which makes itself." In contemporary times, photography is not only a recording of the real world; it transforms the concepts of the artist into reality. This class provides an introduction to photography and ink impression as dual lenses to study contemporary Chinese society. Shanghai's sprawling metropolis and interspersing antiquity offer a unique opportunity to document and create personal reflections of a foreign and fast-changing society. As a modern tool, photography has been the traditional medium that captures moment-to-moment insights, and will be heavily studied as an art form. Less known as a documentary tool, but no less powerful than photography, is the technique of ink impression. This traditional Chinese art form provides a new way of capturing the city by using Chinese ink to create impressions of solid objects. In the studio, students are required to critique the works of peers, works of their own, and images sourced from current exhibitions of contemporary photography. Outside the studio, the group will examine major historical movements in contemporary photography. The works of iconic photographers who explored the city as reality and idea are selected to provide framework and vocabulary to articulate students' own photographic investigations. Students will take on personal projects using photography, ink impression, or a combination of both media. This course leads students to use photography as an art tool to explore cultures and individual expression, emphasizing concepts of art while touching on some technical aspects of photography. This unit is subject to

adjustments depending on the availability of guest speakers and other factors. Note that attendance in the first class meeting is mandatory, otherwise you will be dropped from the course.

Prerequisite: Instructor Consent Required.

ART-SHU 1050

### **Acting: Fundamentals**

This course offers a foundation upon which to build the technique needed to do the actors job: to live truthfully under the imaginary circumstances of the play. In this Stanislavski/Uta Hagen based approach, students participate in a guided study of self-observation and apply discoveries to scene work.

Prerequisite: None.

ART-SHU 1910

### **Projects in Studio Art - Chinese Traditional Methods in Contemporary Art**

This course is designed for studio artists who want to create a succinct body of artwork while studying in Shanghai. Students will create contemporary artworks using traditional Chinese art forms to traverse both cultural and temporal barriers of expression, creating a unique integrated style of work. Students of traditional Western methods of art making, including drawing, painting, sculpture, and printmaking, are going to be asked to work out of traditional Chinese art methods, including calligraphy and ink painting. Also, students will have the opportunity to combine Western and Chinese methods of art making. Students will examine the content of artwork, including ideas in contemporary and traditional art, both Chinese and international, and build various skills to translate ideas into reality. The course includes a study of ancient Chinese paintings, drawings of still-lives and live models, as well as visits to local artists, galleries, and museums. Class time will be devoted to individual projects and critiques, lectures, and group discussions. As a final project, students will integrate their living experiences in Shanghai with personal experience and/or the societal landscape, to create a substantial body of artwork for a group exhibition. This course is open to students who have an art background and upon the approval of the professors. Note that attendance in the first class meeting is mandatory, otherwise you will be dropped from the course.

Prerequisite: Instructor Consent Required.

MUS-SHU 56

### **Piano (Private Lessons)**

(2 credits) For Non-Majors: Private instruction for all skill levels in the literature & techniques of playing piano. Designed to foster appreciation of music & an interest in piano repertoire, musical interpretation, & music notation. 1 year of private study; Instructor Consent (Must have either rudimentary music skills and be able to play simple pieces, two hands together or successfully completed MUS-SHU 59 Group Piano; Prior training/permission of instructor is required).

MUS-SHU 56.2

### **Piano (Private Lessons)**

(4 credits) For Non-Majors Private instruction for all skill levels in the literature & techniques of playing piano. Designed to foster appreciation of music & an interest in piano repertoire, musical interpretation, & music notation. 1 year of private study; Instructor Consent (Must have either rudimentary music skills and be able to play simple pieces, two hands together or successfully completed MUS-SHU 59 Group Piano; Prior training/permission of instructor is required).

MUS-SHU 59

### **Group Piano for Beginners**

For non-majors.

MUS-SHU 200

### **Topics in Music**

*Specific topics vary from semester to semester.*

Prerequisite: None.

MUS-SHU 201

### **Topics in Chinese instruments**

*Specific topics vary from semester to semester.*

Prerequisite: None.

MUS-SHU 202

### **Erhu Intermediate Level**

Intermediate level Erhu class takes up where the beginner class finished. Students are required to demonstrate the skills taught in class by means of outside daily practicing and be able to execute these skills in performance. Students will be asked to attend at least one concert in Chinese folk music and will be asked to research and present as part of the final performance, information about a topic of choice to be agreed upon by the instructor. Prerequisite: Either Erhu Beginner level or permission of the instructor (must demonstrate proficiency).

MUS-SHU 203

**Bamboo Flute Intermediate Level**

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Prerequisite: Elementary Bamboo Flute. Prerequisite: Either Bamboo Flute Beginner level or permission of the instructor (must demonstrate proficiency).

MUS-SHU 219

**Music in Shanghai**

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Centered around attending a variety of musical performances in Shanghai, in class work will consist of lectures, readings, listening and discussions in advance of the event as well as further discussion and reflection afterwards. Students will work on refining critical listening skills and a greater knowledge of music and music as an integral part of society and in particular, Shanghai's past and present artistic community. Genres to be chosen from: jazz, classical, indigenous, fusion, theatre music and contemporary pop/rock. This course satisfies 2 credits of the Chinese Arts Core Curriculum. Prerequisites: None.

MUS-SHU 1085

**Choral Arts: NYU Shanghai Chorale**

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The NYU Shanghai Chorale will explore all types of choral music - pop, jazz, classical etc., help you improve your singing and musicianship skills in a fun environment. Those taking for one or two credits will receive individual singing instruction outside of class at mutually convenient times throughout the semester. Sectional rehearsals may be called as needed.

MUS-SHU 1179/1180/1181

**Chamber Ensemble Instrumental**

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Open to students with an intermediate to advanced ability in instrumental music who would like to play as an ensemble. Chamber music will be arranged for the instruments and ability of the class population. Students must be able to read music and provide their own instrument.

MUS-SHU 1351

**Music Theatre History I**

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This course traces the evolution of musical theatre from the Antiquities through the early-20th Century through the study of distinctive forms of early musical entertainment (i.e. operetta, melodrama, pantomime, minstrelsy, burlesque, extravaganza, revue) and exploring the writers, artists and entrepreneurs as well as the social, political and technological developments that directly influenced and shaped the craft into the Book Musical of the mid-20th century.

MUS-SHU 1510 or 1511

**Vocal Training: Group**

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This course introduces singing - in theory and in practice - by means of lectures, listening, individual and group instruction. Topics to be covered are: the history of the voice as a musical instrument; the act of singing as artistic expression and communication of the human condition; and the scientific principles related to healthy vocal technique. Students will receive one-on-one and group instruction as well as participate in discussions and class performances.

MUS-SHU 1512

**Private Voice Instruction (2 credit)**

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Students will receive individual singing instruction in a studio setting. Vocal function and its application will be discussed and repertoire assigned accordingly. Students are encouraged to explore singing as a communicative tool in delivering text and story telling.

MUS-SHU 1514

**Private Voice Instruction (4 credit)**

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Students will receive individual singing instruction in a studio setting. Vocal function and its application will be discussed and repertoire assigned accordingly. Students are encouraged to explore singing as a communicative tool in delivering text and story telling.

# Biology

BIOL-SHU 5

## **Nutrition, Fitness and Health**

*Only in times of illness we usually realize that our most valuable possession is our health. To be in good health doesn't mean simply to be disease free. This course will focus on the essential role and interaction of exercise and diet in achieving total fitness and wellness. The students will build a strong understanding of the foundations of exercise physiology and nutrition. Students will learn how to evaluate their own wellness level with respect to various wellness components, such as fitness level and nutritional status and will build their own personalized program to maintain their health.*

BIOL-SHU 21

## **Foundations of Biology I**

BIOL-SHU 22

## **Foundations of Biology II**

Our objective is to provide a concrete foundation in the principles of modern molecular and cellular biology. These concepts form almost all basis for the great discoveries now being made in biology and the medical science. In this course, we will discuss how proteins and biomolecules are sorted in the cell, how cells maintain structural framework, how cells multiply, how cells regulate transport cross membranes, how cells interact with environment, and how cancer cells arise. In addition, we will discuss about principle experimental methods of modern cell biology. An emphasis is place on understanding molecular mechanism of essential process, but not memorizing details. In recitations, students will discuss modern research papers related to the topics that are covered in lecture. Students should be able to understand the biology of the paper and criticize its potential pitfall.

Prerequisite: MATH-SHU 121 Calculus or MATH-SHU 201 Honors Calculus AND BIOL-SHU 21 Foundations of Biology I

BIOL-SHU 26 (formerly 263)

## **Developmental Biology**

Multicellular organisms undergo a series of complex temporal and spatial changes in gene expression following fertilization, which results in the highly organized, coordinated cell divisions needed for growth and development. This course introduces students to the principles and experimental strategies of developmental biology. It covers the cellular and molecular basis for patterning in the embryo; the determination of cell fate; cell differentiation; the genes controlling these events; how the genes are identified and studied; and the cellular proteins that effect shape, movement, and signaling among cells.

Prerequisite: BIOL-250, or Foundations of Science III Biology, or Foundations of Biology II.

BIOL-SHU 30 (formerly 264)

## **Genetics**

Why do offspring often exhibit physical features of their parents? Why do combinations of certain features in offspring translate into specific characteristics that either enhance or diminish the organism's fitness? Answers to questions such as these fall partly within the discipline of genetics, which is the study of heredity. Principles from the Foundations of Science curriculum and Organismal Biology provide a framework for learning about classical genetics, chromosome structure and mutation, gene function and regulation, and aspects of molecular and developmental genetics. Recent studies in human genetics and their applications, particularly to health-related issues, are also investigated.

Prerequisite: BIOL-22 or Foundations of Biology II.

BIOL-SHU 31

## **Genetics Laboratory**

Pre-req or co-req: BIOL-SH 30 Genetics.

BIOL-SHU 58 (formerly 258)

## **Evolution**

Evolution encompasses the patterns and mechanisms that explain the diversity of organisms we observe today and during the millions of years of the geological record. Evidence is reviewed that demonstrates the common ancestry of all living things, including humans, and the mechanisms, such as natural selection, that are required and sufficient to explain this pattern of ancestry, diversification, adaptation, speciation, and biogeographic distribution. The course also uses computer and mathematical modeling to explore the fundamentals of population genetics, molecular evolution, phylogenetic systematics, and the evolution of developmental systems.

Prerequisite: CCSC-109.

BIOL-SHU 123

## **FoS Biology Laboratory**

The course will teach students the skills needed in molecular biology research such as the hand-on techniques of microscopy, transformation, gene expression, PCR, gel electrophoresis, SDS-PAGE, and chromatography. The students will first learn these basic biological techniques in short experiment sets and then apply them as part of a Genetically-Modified Food project. The lab course will also emphasize literature search, scientific writing, peer reviewing, lab notes taking, poster and power point presentations, data analysis, and best practices in lab safety.

Prerequisite: Foundation of Biology I or II

**BIOL-SHU 200****Molecular Biology of Cancer**

The course is designed to provide comprehensive molecular and cellular understanding of tumorigenesis and modern cancer research. Various topics in cancer biology will be discussed in the course such as histopathological progression of cancer, its underlying molecular mechanism, and rational therapeutics. Thus, students will learn how multicellular eukaryotic organisms evolve to prevent tumorigenesis process and how exploitative cancer cells break through those defensive mechanisms. During the course, students will be required to read various research papers in cancer studies and discuss their impacts and possible pitfall, which will enhance students' critical thinking ability. Pre-requisite: BIOL-SHU 22 Foundations of Biology II

**BIOL-SHU 250****Organismal Systems**

The array of organisms that populates the globe is astounding in its diversity and adaptability. This course uses fundamental concepts from the Foundations of Science curriculum to examine essential elements of animal physiology, including adaptations to environments such as deserts. This course develops an understanding of the relationship between structure and function of the organism; how structure develops through evolutionary and developmental processes; and how structure is related to the environment surrounding the organism. Prerequisite: Foundations of Biology I). This course satisfies Required Biology Course.

**BIOL-SHU 261****Genomics and Bioinformatics**

Fueled by recent advances in technical approaches to data collection and analysis, the biological sciences have entered a new era in which vast amounts of genome-scale sequence and functional data are becoming available for a large number of species, including human. Many medical and biological studies are being carried out on an unprecedented scale. The surge of biological data changes genomics and biology into one of the major research topics in data science. Familiarity with the fields of genomics and bioinformatics, which impact society on all levels, is vital for the next generation of scientists. The course of Genomics and Bioinformatics introduces to students a broad range of subjects in this field through lectures and hands-on exercises that use fundamental principles of biochemistry, computer science, and mathematics. Students are also expected to understand G&B applications such as how genomic analysis is used to facilitate precision medicine research, and how to study biology questions from a systemic perspective. Prerequisite: FoS Biology 1 AND Biostatistics or Statistics or Math Tools for Life Sciences AND ICP; Introduction to computer programming.

**BIOL-SHU 314****Advanced Cell Biology Lab**

The course takes an in depth to understand the fundamental and advanced methods for growing and studying cells—the smallest units of life. This course introduces students the fundamentals of cell biology and the experimental approaches used in research to examine the cell structure and function. Topics cover cell lines culture, the structure and function of the cells, metabolic pathways, cell signaling pathways, and gene function investigation in vitro in cells. The laboratory course will teach students the skills needed in advanced cellular biology research such as the hands-on techniques of cryopreservation, transfection, realtime PCR, immunofluorescence, RNA isolation, cDNA construction, gene expression and regulation. The lab course will also emphasize literature search, scientific writing, lab notes taking, data analysis, and best practices in lab safety. The course is designed as an upper level 4-credit major elective course, for biology and neural science majors mainly, and open to other natural science majors who have taken Foundation of Biology I or II, or FoS Biology Lab.

**BIOL-SHU 997****Independent Study - Biology**

Prerequisite: Foundations of Science I-III (or Physics I&II, Foundations of Chemistry I&II, Foundations of Biology I&II), and a minimum GPA of 3.0 overall and in all science and mathematics courses required for the major, permission of a biology faculty member (at NYU-Shanghai, NYU-Abu Dhabi, or NYU-New York) who will act as a sponsor and mentor, and approval of the Director of Undergraduate Studies (DUS) in Biology. The faculty mentor must be selected in consultation with the DUS. Offered in the Fall, Spring or Summer. 2 to 4 points per term for a maximum of 4 points. This course aims at engaging students in research. It is designed to offer students an opportunity to observe neuroscience research up close and gain hands-on research experience by working as a member in an active research team. Independent Study I and II can be done with the same supervisor or two different supervisors. No lectures will be given. Student researchers are expected to attend and actively participate in lab/supervision meetings. A Proposal for Independent Study form must be filled out, signed by the DUS, and submitted to the Registrar. Requires a written report on the research to be evaluated by the faculty sponsor, with a copy submitted to the DUS and a copy to the Dean of Arts & Sciences.

**BIOL-SHU 998****Integrated Science Capstone**

*This course provides students with a completion of their undergraduate science education by applying the skills and knowledge they acquired over the course of their major to scientific problems across disciplines. Students will be paired with a faculty mentor to engage either in Independent Research or Literature Review to address a scientific question of the student's design, culminating in a written report. Students are encouraged to work with faculty mentors outside of their own field. Open only to Biology, Chemistry, and Physics majors in the senior year. Prereqs: students must have completed*

*(or enrolled in) all remaining major requirements.*

BIOL-SHU 999

**Biology Undergraduate Research Thesis**

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Prerequisites: Independent Study (BIOL-SHU 997 or 998), a minimum GPA of 3.65 overall, a minimum GPA of 3.65 in all science and mathematics courses required for the major, and permission of a sponsor and the Dean of Arts & Sciences. Open to Biology majors only. The faculty mentor must be selected in consultation with the Dean of Arts & Sciences. May not be used for the major in biology. Offered in the fall, spring, and summer. 2 points. For biology majors who have completed at least one semester of laboratory research (BIOL-SHU 997 or 998) and are able to expand this work into a thesis. Requires writing a Thesis (i.e., a full literature search of the subject and a formal written report on the research in publication form), which is defended in front of a committee of three faculty (which includes the faculty sponsor), chosen by the student in consultation with the faculty mentor. (The defense may be a brief oral presentation followed by a question-and-answer session.) The Thesis and defense must be evaluated by the committee, with the cover page of the thesis signed by all committee members, with a copy of the Thesis submitted to the Dean of Arts & Sciences. (It is recommended that the student meet with the faculty committee at least once mid-semester to evaluate and guide the student's progress on the thesis work.)



## BUSF-SHU 3

### Business and Economics Honors Seminar

Pre-requisite: Permission by the Coordinator of Business Honors Program.

## BUSF-SHU 5

### Principles of Finance for Non-majors

This course is for Non-Business and Non-Data Science with Finance Concentration students. It is a general elective course.

## BUSF-SHU 10J

### Creativity and Innovation

To compete today in a fast-changing world, organizations and individuals need a steady stream of innovative strategies and unexpected solutions to stay ahead of the game—solutions that revive stagnant markets or completely reinvent the competitive dynamics of an industry. This course is about fostering a culture of creative thinking that provides the framework and motivation to generate those strategies and execute those solutions. It is an essential skill for any student with the desire to transform organizational processes and behaviors, and a willingness to challenge the status quo. The course provides many opportunities to apply these new ways of thinking through class exercises and a course project, where you will develop innovative solutions for a chosen topic. Teams will submit two assignment deliverables. This course is a Non-finance elective course.

Prerequisite: None.

## BUSF-SHU 10I

### Statistics for Business and Economics

This course introduces students to the use of statistical methods. Topics include: descriptive statistics; introduction to probability; sampling; statistical inference concerning means, standard deviations, and proportions; correlation; analysis of variance; linear regression, including multiple regression analysis. Applications to empirical situations are an integral part of the course.

Prerequisite: None.

## BUSF-SHU 185J

### The Strategist

**Educational Goal** The goal of this course is to improve our ability to think and act as strategists. We will develop a particular view of what it means to be a strategist and we will practice being strategists of this type. Premise In this course, we define a strategist to be someone who asks questions – but not just any questions in any fashion. The strategist recognizes that the way people, organizations, businesses, and other entities act depends importantly on the assumptions they make about how the world is or could be. The strategist asks questions about the validity of these assumptions. The strategist realizes that if our assumptions are invalid, we may fail to see threats that are in front of us. Strategists, under this view, think and talk in terms such as current assumption, working hypothesis, provisional knowledge, and similar. Strategists are never certain and are always open to revising what they believe. In this sense, strategists follow the scientific method of inquiry in constantly seeking to test their current thinking about how the world works. In the course, we will practice this type of thinking. Course Content A dictionary definition of the work duality is “an instance of opposition or contrast between two concepts or two aspects of something” (google.com). In the course, we will study a number of dualities, including: i. strategy... or anti-strategy ii. the Prisoner's Dilemma ... or another game iii. competition ... or cooperation iv. the bigger picture ... or the smaller picture v. trade-off ... or trade-on vi. my mind ... or your mind vii. the Normal distribution ... or another distribution viii. weakness ... or strength As strategists, we will not hold to a fixed view that what we are studying must be understood solely in terms of one side of a duality. We will ask if a situation can be better understood in terms of the other side of the duality. We will also ask if it can be better understood in terms of both sides of the duality at once. We will cover many examples of how openness to thinking this way has yielded important advances. In addition to these topics, the course will bring in a number of experts to talk about issues of current importance in the world where good strategic thinking is needed. This way, we will learn to be strategists not only in principle, but in practice here and now. Format The course will be multimodal, involving reading, discussion, video, and exercises. A significant amount of class time will be devoted to group work on each of the dualities we will cover. Students, in groups, will create posters arguing for one or other side of a duality, and there will then be debate between sides. Posters will be captured and available at a class site. Between classes, students will be responsible for: (a) commenting on posters; (b) uploading a report (viewable by all of us) on something they have read, seen, etc. since the previous class and which they argue is illuminated by the course; (c) contributing to comment streams on (a) and (b). At the end of the course, each student will write a brief postscript. The course will ask for a spirit of adventure and experimentation on the part of students. Grading Each student will receive a pass/fail grade at the end of the course, based on maintaining a sufficient level of engagement during the course. I will provide developmental feedback throughout.

Prerequisite: None.

## BUSF-SHU 188

### Advanced High Business Chinese - Cases from Real World

This is the second part of a two-semester sequence for those who have studied Mandarin to the advanced level, although part 1 is NOT the prerequisite for taking part 2 or vice versa. The course is aimed to enhance students' Chinese skills in the business context and promote their understanding about the macro and micro business

environment and culture in China. An approach placing more emphasis on case study is adopted along with task-based language teaching. The course is based on real-life cases from the business world. One is a multinational company which entered the Chinese market as a pioneer in the late 1970s and developed even closer ties to China in the 1990s by acquiring or partnering with the Chinese companies; five are Chinese companies that have endeavored in different ways to reach larger domestic and global markets. These cases center upon the issues of Business Globalization, M & A (Mergers and Acquisition), OEM (Original Equipment Manufacturer) and Antidumping etc. Through reading and discussing these cases and performing form-focused and communicative tasks related to these cases, students will learn how to use Chinese as a "carrier of culture" in a more dynamic way, thus acquiring a better understanding about China in economic and, broadly defined, cultural terms. In addition, the case study will also inspire students to explore the Chinese consumers' interest and mentality, so that they will occupy a more qualified position to explore a successful road toward "doing business in/with China." In addition to the business case analysis, supplementary reading, writing and listening exercises as well as media materials from different sources will also be provided in class or on-line. Highlights of these exercises are: Listening comprehension of business news reports on current issues as well as video recordings of television interviews and talk shows that cast successful international business leaders; analysis of the international financial markets (incl. analysis of origin, functions and conflict of interest of the investment banks); translation of business terminologies and documents, and commercial language and word processing. For students who are interested in pursuing career opportunities in Mainland China and Hong Kong, the course will teach the proper ways to compose a Chinese resume while, at the same time, introducing related job interview skills. By the end of the semester, students are expected to: (1) be equipped with the language skills to function more comfortably and confidently in the real business settings such as job interviews that require the Chinese language proficiency; (2) enhance the cultural awareness about the Chinese business world; (3) improve listening comprehension of Chinese business related media materials; (4) improve reading and translation skills of business terminologies/documents; (5) be able to use Chinese language software for certain business purposes. Class will be conducted in Chinese.

Pre-requisite: Instructor Consent Required.

BUSF-SHU 200C

### **The Globalization of Business Enterprise**

The Globalization of Business Enterprise (GLOBE) focuses on globalization and its implications for business and individuals. The course examines the global business environment and practices, places emphasis on implications of the globalization on business strategy, functional policies, as well as on individuals who make decisions on their professional and personal lives. The course is composed of four modules that review the facts about globalization on a spectrum of macro to managerial to personal aspects and spark reflections about the future agenda for global business leaders. These four modules are: 1) introduction of globalization, its myths, and business consequences; 2) presentation of the theoretical framework that analyzes similarities and differences and related strategic/functional implications on business decision-makers; 3) strategic responses to globalization on how to overcome and take advantage of cross-border differences; 4) globalization and you: to help the students to understand the importance of planning a global career and expanding their horizons to become a better global citizen. As a key characteristic, the course uses real-world case studies as a foundation for the application of theory, analysis of strategy and discussions on successes and pitfalls. Open to Juniors and Seniors.

BUSF-SHU 200D

### **Business Consulting in China**

This course provides a consultant's perspective on business consulting, particularly in China context. It introduces the principles, end-to-end processes, frameworks and best practices of business consulting. The course addresses how consulting firms work, what it is like working in a consulting firm and being on a consulting project. Students will form project teams and apply the principles and frameworks to real-life business consulting projects from mid-small companies in China. Prerequisites: Management and Organizations and/or Intro to Marketing, or upon approval by the instructor; requires Junior or Senior standing

BUSF-SHU 202

### **Foundations of Finance**

This course is a rigorous, quantitative introduction to financial market structures and financial asset valuation. It has three goals: 1. To develop the concepts of arbitrage, the term structure of interest rates, diversification, the Capital Asset Pricing Model (CAPM), valuation of an individual firm, efficient and inefficient markets, performance evaluation of investment management, and valuation of derivative securities, particularly options. 2. To provide sufficient background knowledge about financial institutions and market conventions for students seeking an overview of capital markets as an introduction to advanced finance courses. 3. To introduce the principles of asset valuation from an applied perspective. The majority of the class is concerned with the valuation of financial securities. These valuation issues are heavily used in portfolio management and risk management applications. Throughout the course every effort will be made to relate the course material to current financial news. To take this course, students must be comfortable with statistics, linear algebra, calculus, and microeconomics. Prerequisites BUSF-101 and ECON-150.

BUSF-SHU 205

### **Information Technology in Business and Society**

Students in this course learn the essential tools used by today's knowledge workers, including spreadsheet modeling and analysis and database querying. They learn to recognize the large-scale systems that run modern organizations, and how to evaluate IT investments in products, services, and systems. They learn about the economics of information pricing, technological lock-in, and network effects. And they discuss a set of special topics, which may include digital music, information privacy, data mining and digital piracy.

BUSF-SHU 206

### **Investing and Financing in and with China**

What does it take to be successful in China? How do domestic and foreign businesses do in the world's most dynamic economy? How do Chinese entrepreneurs work in a dynamic country? How do investors think about cross border investing into and out of China? How do investors think about cross border investing into and out of China? What are the leading opportunities in Chinese markets today? How are Chinese firms reshaping global business?

Course overview: This course is designed to prepare students for a good overview of investments, financing as well as conducting business in and with China. The class format will include lectures, case studies, discussions, guest speakers and student presentations to explore the opportunities and risks of international and domestic investments in China as well as the outward expansion of Chinese firms. The course will be require the student's active participation and parts will involve group work. Leading industry guest speakers and a site tour may be arranged for further learning enhancement, schedules permitting. The course materials will draw heavily on the lecturer's experiences.

Target students / audience: The target students are NYU Shanghai business & finance majors, economics majors and study abroad students from Stern. This course is suitable for any student interested in understanding international business, emerging markets, investments, cross border business and China. No prior knowledge or experience with China's business environment is required.

Prerequisites: BUSF-SHU 202 (Foundations of Finance) or BUSF-SHU 303 (Corporate Finance) AND ECON-SHU 251 (Economics of Global Business) or ECON-SHU 1 (Macroeconomics). This course satisfies 2 credits of Business and Finance Elective.

BUSF-SHU 207

### **Financial System and Financial Intermediation**

Recent global financial turbulence has demonstrated both how important the financial system is to the world economy and how complex it is. Financial systems are centered on key institutions, instruments and markets. But they also involve governments, public policy and regulation. They span the globe from the US, the EU and Japan to Russia, China and the Emerging Markets. In critical ways, country level financial architectures are integrating to form a more seamless, high-performance whole. This is good for efficiency, innovation and growth, yet it also amplifies problems during times of crisis. This course provides students with a broad understanding of (i) What is the financial system and what are the functions of financial intermediaries. (ii) How the global financial system works and what purposes it serves, (iii) What the major elements are and how they operate, and (iv) What risks and challenges the global financial system creates for individuals, business firms and policymakers. In seeking to achieve these objectives, the course provides a perspective that helps students understand and make the most of their own professional opportunities. Along with a working knowledge of the global macro economy, foundations of finance and corporate finance, this course will be extremely helpful for students as a lens to focus on the key dimensions of the modern business environment.

Prerequisite: BUSF-SHU 202.

BUSF-SHU 208

### **Chinese Financial Markets**

This course introduces the institutions, instruments, and empirical regularities of Chinese financial markets. The target is to provide students with a comprehensive understanding of Chinese financial markets. It focuses on current issues and debates about Chinese financial markets, including Chinese banking system, RMB exchange rates, Chinese stock markets and bond markets, mutual fund and hedge fund industry, Chinese derivative markets and other important topics. The similarities and differences between Chinese financial markets and more developed ones will be highlighted. (fulfills NYU Shanghai Business major Finance Elective).

BUSF-SHU 210

### **Business Analytics**

This course introduces the basic principles and techniques of applied mathematical modeling for managerial decision making. You will learn to use some important analytic methods (e.g. forecasting, data mining, optimization, Monte Carlo simulation), to recognize their assumptions and limitations, and to employ them in decision making. The course is entirely hands-on. The emphasis will be on model formulation and interpretation of results, not on mathematical theory. The emphasis is on models that are widely used in diverse industries and functional areas, including finance, marketing, and operations. This course satisfies Business elective for Business and Finance/Marketing major.

BUSF-SHU 211

### **Design Thinking**

Design thinking is a novel approach to problem-solving you can apply to any discipline. It gives you the superpower to rapidly develop concepts, products, services, strategies, and systems that are both innovative and responsive to actual user needs and desires. This course takes an up-close and personal look at the origins and spread of design thinking, helps you understand the strengths and weakness of the method, and shows you how to use it to solve anything creatively. At the heart of design thinking is collaboration. Get ready to learn from your friends, embrace the power of storytelling, and make things that matter.

Prerequisite: None.

BUSF-SHU 220A

### **Topics in Business - 2 cr: Chinese and International Accounting**

During the past decade, the world has witnessed one of the most significant changes ever happened to corporate financial reporting - the global adoption of IFRS (International Financial Reporting Standard). So far, nearly 70 countries (including all EU countries) have mandated IFRS for their listed companies, and about 40 countries are in the process of converging to IFRS. China started its convergence to IFRS in 2007, and by 2010 the Chinese Accounting Standards (CAS) were about three-quarters of the way towards full agreement with IFRS. With tremendous changes in accounting standards around the world, students who want to succeed in an era of globalization must be able to read and interpret financial statements prepared under different accounting standards. The main objective of this course is to increase students' awareness of the broad spectrum of alternative approaches to accounting systems in the world and why they exist. To achieve this goal, this course will discuss knowledge of International Financial Reporting Standards, including its history, new standard adoption, the recording of financial transactions, and financial statement presentation, with an emphasis on China's convergence to IFRS and existing differences between IFRS and US-GAAP. Students will also explore concurrent issues in standard setting in the main economies such as China, the EU, and the United States which will help them develop the ability to conduct an analysis of financial reports prepared under different accounting standards.

Prerequisite: BUSF-SHU 250 (Principles of Financial Accounting)

BUSF-SHU 221

### **Professional Responsibility & Leadership**

Professional Responsibility and Leadership (PRL) is an interdisciplinary course designed to help students become more familiar with the variety of ethical dilemmas that can arise in the course of business practice & in one's personal life; Understand the different values and principles that can inform and guide decision-making in such ambiguous and difficult situations; Gain experience articulating and defending courses of action as future societal & business leaders; and Begin the process of developing professional ethics in harmony with their own personal values. The format of the course is a discussion seminar. Each class session may include a variety of activities, including: discussion, in-class reading and writing, role-playing, and other participatory exercises. These various activities will be designed and facilitated by the instructor to allow students to engage in a reflective dialogue. These discussions draw from three different sources: 1) the students' own personal experiences and values; 2) expert insights drawn from a variety of academic disciplines including philosophy, literature, history, and art, as well as the natural and social sciences; and 3) relevant business cases. In each class session, students consider a set of expert accounts identified by the instructor as starting points for discussion, and then they integrate their experiences with business cases that have personal relevance for them. The overarching themes of this dialogue include: 1) the relationship between business and society on a global, national and local basis; 2) the foundations of personal and professional business ethics; and 3) the exercise of leadership in organizations. These themes are developed in reference to a series of cases that have been either drawn from recent news reports on business practice or drafted specifically for this course by NYU Stern faculty. In this way, the PRL classroom is 'flipped' - the course focuses primarily on the students' own interests and refines them both through dialogue and in reference to expert sources. Rather than involving the one-way dispensation of 'content' from faculty to student, the course unfolds as a 'process' of students and faculty working together in response to open-ended, age-old questions. While there may be no 'right' answer to such questions in the way that mathematical problems may be solved, still there are answers that are better or worse for individuals, organizations and societies. In this light, students are encouraged to challenge themselves and each other to make the world a better place, and to discover how they can thrive individually and collectively.

Prerequisite: None. Satisfies 2 credits of Business Major Non-Finance/Non-Marketing elective.

BUSF-SHU 222

### **Risk Management in Financial Institutions**

This course examines the management of risks in a wide range of financial activities, with a particular focus on market risk, credit risk, and liquidity risk. It uses quantitative models to estimate credit losses, economic capital and value at risk, and to perform stress tests and scenario analysis. The course also analyzes the consequences of technological change, globalization, monetary policy, and the entry of new types of institutions into existing financial markets. It emphasizes the importance of systemic risk, moral hazard, and new regulations in light of the recent financial crisis.

BUSF-SHU 229

### **Behavioral Finance**

This course investigates the conspicuous activities of entrepreneurship such as raising capital, running factories, organizing supply chains and working out how to take existing products to new markets alongside the more private and primary first move behind entrepreneurial activity: sensitivity to pleasures and pains that others might overlook. You will gain useful tools and strategies you may apply whether you want to start a startup, thrive in a large organization, and everything between. Most classes use cases, an effective way to gain accelerated experience by absorbing a large number of stories of new ventures in a short time. These cases are complemented by visits from guest entrepreneurs and economists, who will share their ideas about entrepreneurship and economic dynamism, as well as field trips to Shanghai startups, and a team design challenge. This course is not just for students who want to be entrepreneurs. Any student who is driven to create change should enroll.

Prerequisite: None.

BUSF-SHU 244

### **Portfolio Management**

Portfolio management: The art and science of making decisions about investment mix and policy, matching investments to objectives, asset allocation for individuals and institutions, and balancing risk against performance. (Investopedia) The primary objective of the course is to study the theory and empirical evidence relevant for investing, particularly in the context of portfolio management. The basic theoretical framework is standard modern

portfolio theory, as developed in Foundations of Finance, and its extensions. "Modern portfolio theory" is a general approach for maximizing the expected return of a portfolio given a certain amount of risk. This approach is the basis of virtually all quant investing strategies and is widely used by traditional portfolio managers as well. There has been a proliferation of new products and strategies in the asset management space in recent years, e.g., smart beta, alternative beta, fundamental indexing, low volatility, and leveraged and inverse ETFs. This course applies portfolio theory to understand and evaluate these products and strategies in the context of the empirical evidence about return patterns across assets (i.e., the factors such as value/growth, momentum, and carry that drive returns) in multiple markets/asset classes (e.g., US and international equities and bonds, currencies, and commodities). Key questions include: • What factors drive asset returns? Is it risk or mispricing? • Can this structure of returns be used to construct better portfolios and products? • How should the performance of existing products be evaluated given the empirical evidence? The course will rely heavily on Excel modeling using real world data. The course also covers, to a lesser extent, the institutional landscape of the asset management business—the firms (e.g., Blackrock, Vanguard), the vehicles (e.g., mutual funds, ETFs, hedge funds), and the trends (e.g., active vs. passive, fee competition).

Prerequisite: Foundations of Finance

BUSF-SHU 250

### **Principles of Financial Accounting**

Develops students' abilities to understand business transactions and financial statements and to determine the most appropriate financial measures for these events. Investigates the underlying rationale for accounting practices and assesses their effectiveness in providing useful information for decision making. Emphasis is placed on accounting practices that purport to portray corporate financial position, operating results, cash flows, manager performance, and financial strength.

Prerequisite: None.

BUSF-SHU 286

### **Chinese Financial Markets**

This course introduces the institutions, instruments, and empirical regularities of Chinese financial markets and the role these markets play in the broader Chinese economy. The goal of the course is to provide students with a comprehensive understanding of Chinese financial markets. It focuses on current issues and debates about Chinese financial markets, including the Chinese banking system, RMB exchange rates, Chinese stock markets and bond markets, mutual fund and hedge fund industry, Chinese derivative markets and other important topics. The similarities and differences between Chinese financial markets and more developed markets will be highlighted.

Prerequisites: Foundations of Finance or Principles of Finance.

BUSF-SHU 288

### **Doing Business in China**

The course is designed to help the students to better understand business practices, environment, and cultures in China. Special focus will be placed on the understanding of the political, institutional, and financial contexts within which business activities unfold. The course will also discuss the implications of regional and global factors in shaping opportunities and constraints on businesses in China as well as the impact of Chinese business on international markets. Learning goals of the course are to: 1. Become knowledgeable in select concepts of the businesses in China; 2. Obtain essential knowledge on the evolution and development of business in China; 3. Develop an awareness of the political, socioeconomic, and cultural aspects of life in China, including critiques of common intercultural stereotypes around values and assumptions related to Chinese society and business practices; 4. Gain practical experience in interacting with diverse Chinese business communities.

BUSF-SHU 303

### **Corporate Finance**

This course analyzes the major financial decisions made by corporate managers. The major topics include the objective of the firm, investment valuation and capital budgeting, risk management, capital structure and dividend policy. Insights from behavioral corporate finance that help better understand corporate decisions in practice will also be discussed. There will be emphasis on both developing the tools and mindset of the financial practitioner as well as examining specific applications in the form of examples, case discussions, and classroom simulations.

Prerequisite: BUSF-SHU 202.

BUSF-SHU 304

### **Futures and Options**

This course covers the theoretical and practical aspects of futures, options, and other derivative instruments, which have become some of the most important tools of modern finance. While the primary focus is on financial derivatives, contracts based on commodities, credit risk, and other nonfinancial variables are also covered. Topics include market institutions and trading practices, valuation models, hedging, and other risk management techniques. The course requires relatively extensive use of quantitative methods and theoretical reasoning.

Prerequisite: BUSF-202.

BUSF-SHU 305

### **Debt Instruments and Markets**

This course describes important fixed income securities and markets and develops tools for valuing debt instruments and managing interest rate risk. The course covers traditional bond pricing, term structure, and interest rate risk concepts. It also covers the analytical and institutional aspects of fixed income derivatives, such as

interest rate swaps, forwards, futures, and options, as well as bonds with embedded options and mortgage-backed securities. Topics also include credit risk, bond portfolio, management, financial engineering, and international fixed income. The study of fixed income is quantitative and technical by nature.

Prerequisite: BUSF-202.

BUSF-SHU 306

### **The Chinese Financial System**

Prerequisite: BUSF-202.

BUSF-SHU 307

### **Private Equity & Venture Capital in Asia and Emerging Markets**

This course is designed to prepare students to have a good general understanding of private equity and venture capital especially with an Asian focus. This will provide an overview of investments, financing, strategies and other elements in private equity and venture capital in China, Asia, and globally. The class format will include lectures, case studies, discussions, and guest speakers (time dependent). The course will require the student's active participation. Leading industry guest speakers may be arranged for further learning enhancement, schedules permitting. The course materials will draw heavily on the lecturer's experiences.

This course is an upper level finance elective.

Prerequisites: BUSF-SHU 202 (Foundations of Finance), BUSF-SHU 303 (Corporate Finance) and BUSF-SHU 250 (Economics of Global Business) (or ECON-SHU 1 Macroeconomics).

This course satisfies 2 credits of Finance Elective.

BUSF-SHU 308

### **Hedge Fund Strategies**

This course aims to provide an in-depth understanding of the strategies used by hedge funds, employing a hands-on approach based on case studies and real data. The hedge fund industry has grown rapidly over the last decade aided in part by the private nature of funds and light regulation that has enabled managers to employ strategies not available to traditional fund managers. The course examines critical aspects of hedge fund investment styles including the trading mechanism, risk-return profiles of investment styles, trading costs, risk management and performance measurement. Strategies covered include event driven strategies, equity, debt, FX, cross-market strategies, global macro and shareholder activism. Distinguished guest speakers will be invited to provide a real-life perspective and to discuss key issues.

Prerequisites: Corporate Finance

BUSF-SHU 309

### **Financial Statement Analysis**

The course analyzes how firms communicate through financial statements. Students use financial statement analysis as an integral part of the strategic analysis of firms, while understanding how accounting regulations and managerial discretion influence presented financial statements. Course modules include strategic analysis, risk and profitability analysis using ratios, accounting analysis, and prospective analysis. By the end of the course, students can interpret and analyze financial statements, analyze cash flows, make judgments about earnings quality, uncover hidden assets and liabilities, and use financial statement analysis prospectively to forecast and value firms using cash flow-based and accounting-based valuation methods. Students who wish to pursue careers in investment banking, investment management, consulting, and accounting are encouraged to take the course.

Prerequisite: Principle of Financial Accounting.

BUSF-SHU 321

### **Equity Valuation**

This course covers the valuation of stocks and businesses. Real life valuations of companies are an inherent part of the content. By the end of the course, students should be able to: (1) apply discounted cash flow analysis to find the intrinsic value of an asset; (2) define, describe, analyze, and apply any multiple (PE, Value/EBITDA, Price/Book Value, etc.) to find the relative value of an asset; (3) value any publicly traded firm, small or large, domestic or foreign, healthy or troubled; (4) value any private business for owners or investors (private equity, venture capital, IPO); and (5) separate fact from fiction, sense from nonsense, and real analysis from sales pitch in equity research reports, valuations, and general discourse. Prerequisites: Foundations of Finance AND Corporate Finance. This course satisfies Business & Finance Elective.

BUSF-SHU 340

### **Advanced Financial Accounting**

Prerequisite: None. This course satisfies the following: Business and Finance Major: Non-Finance Elective; Business and Marketing Major: Non-Marketing Elective.

BUSF-SHU 350

### **Principles of Managerial Accounting**

Introduces students to the evolving role that managerial accounting has played and is expected to play in servicing the informational needs of managers in the planning, organizing, and controlling functions. Highlights the attention-directing, decision-support, and decision-influencing roles of managerial accounting, while helping students learn to structure business decisions systematically and identify the information relevant to a decision. Trains students to think analytically about improving existing systems to further a firm's competitive advantage.

Prerequisite: None.

BUSF-SHU 351

### **Operations Management**

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Operations Management (OM) plans and coordinates all activities in the process of producing and delivering products (goods and services). Effective operations management is a key ingredient of success in most industries. Achieving operations excellence is one of the most essential strategies to improve efficiency and to gain a competitive advantage. The goal of this course is to introduce students to the fundamental concepts, problems, and strategies in the operations function of a firm. This course will cover a mix of qualitative and quantitative methods that provide the necessary tools to make intelligent decisions in operations.

Prerequisites: Sophomore Standing.

This course satisfies Business Elective for Business and Finance / Marketing Major.

BUSF-SHU 997

### **Business Independent Study**

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MGMT-SHU 18

### **Strategic Analysis**

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This course provides an introduction to the basic frameworks of modern strategy that aim to help firms establish and sustain competitive advantages. The objective of this course is to introduce students to the role of the "general manager," who is faced by core strategic choices that concern the long-term performance of the firm, and provide them with the necessary skills to formulate and implement effective strategies. This course is equally relevant for students who want to work with companies as consultants, attorneys or investors, helping clients understand and solve critical strategic issues. From this course, you'll learn to think critically and analytically about competitive business situations. You'll also learn to embrace uncertainty, ambiguity and complexity of these situations, and to help firms improve the decision making process with sensible and actionable solutions. Firm performance is jointly determined by external economic and internal organizational forces. As a general manager, students need to have the ability to conduct strategic analysis at both the firm and industrial levels. To help them develop these analytical skills, this course is organized around four questions that are central to firms' strategic decisions: • What is the firm's external environment? • What is the firm's competitive advantage? • With whom should the firm compete? • How should the firm compete? To answer these questions, we will cover the following four main topics in this course: • Industry analysis: the environment, opportunities, threats, industry competition • Firm level strategy: competitive advantage • Competitive dynamics • Corporate strategy This course combines interactive lectures and case analyses. While the lectures provide a synthesized theoretical framework as the guidance for logical thinking, the case analyses offer an opportunity to integrate and apply the theoretical framework in a practical way

MGMT-SHU 21

### **Managerial Skills**

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Many companies bestow a management title on key talent and expect appropriate behavior to follow. That is not the most effective way to develop future business leaders. Your expertise will take you just so far. Increasing self-awareness and being open to feedback are important first steps in leading today's business for tomorrow's results. DEVELOPING MANAGEMENT SKILLS is a course that focuses primarily on the practical aspects of managing. This course is highly interactive and, while based on solid research, it stresses a hands-on approach to improving your management skills. The focus is on developing: Your Personal Skills: self-awareness; managing stress; solving problems & creativity What behaviors help or get in your way as you strive for personal/professional success? How do your values influence your decisions and problem-solving approaches? How do your learning styles help or hinder how you handle ethical dilemmas?, etc.) Your Interpersonal Skills: coaching; counseling; supportive communication; gaining power & influence; motivating self & others; managing conflict Your Group Skills: empowering & delegating; building teams, leading change, running meetings. Each session will give you an opportunity to "assess", "analyze", "practice", "learn", "teach", and "apply" the above skills to your own work or life situation so that you can turn good ideas into effective practice. You will not only learn about management skills but you will begin to apply those skills in class, at work, at home, etc., to help you become a more effective business leader. This is not the course for you, if you prefer classes where you can sit passively by and be an "academic tourist". In the self-assessment step you assess your own skills in the topic under discussion. Usually, these will be at the beginning of each chapter. Class lectures and discussions will involve such topics as: self-awareness, creative problem-solving, communication, stress management, gaining power, motivating others, managing conflict, empowering others, giving and receiving feedback, delegating, and team building, etc...not necessarily in that order. You will analyze, write about, practice and apply these topics through case studies, group exercises, and being responsible to teach some topics to the class. NOTE: We will NOT be reading each chapter in class. The text is YOUR resource to use as we go along as a starting point. Use it. We will seldom refer to it during class. It can serve as the basis for class discussion and reflection. However, it is not to be considered the only resource available to you. This is your opportunity to explore these topics through outside sources, including but not limited to professional and popular journals/books/organizations, Human Resources professionals, web sites, etc. Your chance to network beyond your comfort zone! You will be required to keep a journal/log from day one. A self-awareness journal allows you to keep track of the issues that help or get in the way of your career/management goals and the action-steps you take to achieve them. This will be especially important for your final project. You will be required to hand in a one-page summary of highlights about ¾ of the way through the course. A secondary goal is to provide you an opportunity to develop your skills in critical thinking, oral and written communication, and your ability to influence others through rational and creative approaches. Therefore, at the end of this course you will be able to: Demonstrate your understanding and competence with respect to fundamental managerial skills: Self-awareness, stress management, creative problem solving, supportive communication, gaining power and influence, motivating others, managing conflict, building effective teams, etc. Analyze, develop, practice, and demonstrate your ability to use these fundamental personal, interpersonal and team building skills through self-assessments, textbook learning, cases, experiential exercises,

written application exercises and a final paper. Pre-req OR Co-req: Management & Organizations.

MGMT-SHU 301

### **Management and Organizations**

This course addresses contemporary management challenges stemming from changing organizational structures, complex environmental conditions, new technological developments, and increasingly diverse workforces. It highlights critical management issues involved in planning, organizing, controlling, and leading an organization. Ultimately, it aims to strengthen students' managerial potential by providing general frameworks for analyzing, diagnosing, and responding to both fundamental and complex organizational situations. It also provides opportunities for students to enhance their communication and interpersonal skills, which are essential to effective management. The structure of the course encourages learning at multiple levels: through in-class lectures, exercises, and discussions; in small teams carrying out projects; and in individual reading, study, and analysis.

Prerequisite: None.

MKTG-SHU 1

### **Introduction to Marketing**

Evaluates, from the management point of view, marketing as a system for the satisfaction of human wants and a catalyst of business activity. Deals with the subject at all levels, from producer to consumer, and emphasizes the planning required for the efficient use of marketing tools in the development and expansion of markets. Concentrates on the principles, functions, and tools of marketing, including quantitative methods. Utilizes cases to develop a problem-solving ability in dealing with specific areas.

Prerequisite: Academic level should be greater than freshmen.

MKTG-SHU 2

### **Consumer Behavior**

This course presents a comprehensive, systematic, and practical conceptual framework for understanding people as consumers—the basic subject matter of all marketing. It draws on the social sciences to evaluate the influence of both individual and ecological factors on market actions. Students discuss relevant psychological and sociological theories and study how they can be used to predict consumers' reactions to strategic marketing decisions. Basic methodologies for research in consumer behavior are developed and applied. Course emphasis is on developing applications of behavioral concepts and methods for marketing actions.

MKTG-SHU 3

### **Advertising Management**

This course provides students with a comprehensive framework and tools to understand the advertising process and to appreciate managerial and theoretical perspectives in advertising. It tackles the stages in developing an advertising plan- from analyzing the situation and defining clear advertising objectives to execution. Students learn tools related to various skill areas in advertising, including account planning, media planning and buying, and copywriting/art direction, while developing a broader appreciation of how each skill area fits into the overall structure of the advertising process. Coursework involves a comprehensive group project that utilizes learning in all functional areas of advertising, while simulating the development of an advertising campaign.

Prerequisite: Intro to Marketing (MKTG-SHU 1)

MKTG-SHU 9

### **Research for Customer Insights**

This course provides students with both research and managerial perspectives in the development and application of marketing research tools and procedures. It describes the development of research designs from problem formulation to analysis and submission of the research report. It also covers the analysis of techniques in marketing research, such as focus groups, experimental design, surveys, sampling, statistical analysis, and reporting. Cases are utilized in the development of methods and in specific areas of application.

MKTG-SHU 57

### **Digital Marketing**

Provides an introduction to fundamental concepts in digital marketing. Students will learn through business case studies reflecting recent frameworks in the field, and in-class exercises on metrics and methods for evaluating the success of digital marketing. Students will also explore the psychology of virality and social influence in digital contexts.

Prerequisite: Intro to Marketing.

MKTG-SHU 110

### **Topics: Practicum on Innovation and Branding**

Innovation is the process by which an organization generates creative new ideas and converts them into viable commercial products. Branding, on the other hand, is the process of creating a unique image for the product in the consumers' mind. This perception reflects on the organization as a whole. Moreover, branding aims to establish a differentiated presence in the marketplace to attract and retain loyal customers. Thus, innovation and branding are inextricably linked for organizational success, or survival, in today's hyper-competitive business landscape. This course aims to equip students with knowledge in both the innovation and branding processes. By participating in the International L'Oréal Brandstorm Competition, students will gain practical experience in formulating an idea, develop branding around said idea, and then pitching said idea (innovation and branding) in a competitive forum. Students will also develop an understanding of the role of design and innovation as a collaborative, multidisciplinary group activity; and improve writing and presentation skills. The course incorporates multiple ways



of learning including: lectures, case studies, ethnographic research, industry expert feedback on projects and guest presentations, and design activities in the interactive media lab. In essence, the course integrates a project-based learning approach.

Prerequisites: None. Satisfies IMB Major, and Business Major - Marketing Elective if Intro to Marketing has been taken, otherwise Non-finance/Non-marketing Elective)

MKTG-SHU 228

### **Strategic Marketing in China: Live Project Case Study**

This course satisfies the China Business Studies requirement for Business Majors, and a Business elective for IMB majors. Bus Majors and IMB Majors have a priority; others are able to enroll beginning Nov 20. Course Description: Course Description For most marketers, China is probably one of the most dynamic markets to do business in today. It offers unlimited new opportunities and endless challenges. The purpose of this course is to provide students with first-hand experience in dealing with some of the marketing practices and issues particular to China. The course consists of a combination of live project, case analyses, presentations by industry experts and lectures. The course provides students with a framework for researching and developing a strategic marketing plan, as grounded in theory and industry practice. Student teams will apply structured problem-solving approaches in an iterative and competitive process. They will gain a holistic understanding of the challenges of doing marketing in China: - Acquire knowledge of key marketing issues - Learn practical skills in doing strategic marketing in and with China - Gain an understanding of marketing strategies and practices employed by both foreign and Chinese firms - Analyze marketing problems from a multi-disciplinary perspective - Develop value creating recommendations For the live project, student teams will go through steps of solving a real life marketing problem from a sponsoring company: from taking a brief, to conducting market research, to generating and analyzing data, to coming up with ideas and recommendations. They will then present their recommendations to executive(s) of the sponsoring company in the format of a business pitch.

Prerequisite: Intro to Marketing.

SOIM-SHU 6

### **Law, Business & Society**

This course challenges undergraduate students to think deeply about legal systems and the continual evolution of business practice and business law. This process is multidimensional and involves social, political, ethical, and technological factors. In the course, students examine how key areas of business law influence the structure of societal and business relationships, while honing their analytical, communication, and writing skills. While focusing on the American legal tradition, the course taught in Shanghai Spring 2016 will involve select points of comparison with legal and business practice in China. Stephen Harder is the managing partner of the China practice of the international law firm Clifford Chance. He is based in Shanghai where his practice focuses on cross border project transactions of Chinese institutions. When based previously in Europe and New York, he acted as counsel for the Russian and Polish privatization programs and the Polish sovereign debt restructuring. He has written on "China's Sovereign Wealth Fund: The Need for Caution" in the International Financial Law Review, and spoken recently at Harvard and Columbia on "China Ventures Forth - Advising China on Foreign Investments" and "China in the Balance: Needed Reforms, Vested Interests and the Choices Facing China's New Leaders". He has also written on "Political Finance in the Liberal Republic" in the Annals of the American Academy of Political and Social Sciences. He received his undergraduate degree in Chinese Studies from Princeton and his MBA and JD degrees from Columbia. Open to all Seniors, Juniors, with preference to Stern program students. Interested sophomores need to request permission from the instructor.

SOIM-SHU 65

### **Organizational Communication and Its Social Context**

Students learn how organizations communicate with multiple types of audiences, focusing on the interconnections between business and society. The course uses the stakeholder model of the corporation to introduce the strategic implications of communication for modern organizations. Students focus on strategic and tactical aspects of corporate communication to study and practice the ways in which organizations communicate to their varied internal and external stakeholders. Assignments develop students' abilities in speaking and writing to these varied audiences, both to inform and to persuade. The course emphasizes bridging theoretical fundamentals, and action learning is stressed, which includes applying communication strategy to the following: oral and written business assignments; presentation delivery techniques; visual communication analysis and practice; team communication.

SOIM-SHU 165

### **Advanced Organizational Communication**

Advanced Organizational Communication builds upon the oral and written communication skills developed in its prerequisite course, Organizational Communication & its Social Context. This advanced course provides opportunities for students to continue developing their communication skills in a variety of contexts while working and presenting to multiple audiences. In this course, students will have the opportunity to persuade real life stakeholders to take action; such activities include making a stock pitch to a financial expert, speaking to a large audience of peers / professors at an NYUSH Student-run Speaker Series, and developing a social impact plan for an actual corporate client. Presentations will vary in size and delivery method (virtual, in-person, board-room style, auditorium style, etc.). In some cases, you will work to adapt the same presentation into multiple formats. Additionally, we will incorporate role-plays, impromptu, team communication (running meetings, supportive communication, consensus building), and group discussions throughout the course. Two writing assignments will reflect content from the oral presentations in typical business document format. The course will be highly participative, real world, and interactive. The professor will do everything he can to engage real-life audience members and facilitate practical, experiential learning. Participation, taking risks, and working beyond one's comfort zone are essentials for success in this class.

Prerequisite: Organizational Communication & its Social Context OR Instructor permission.

This course challenges undergraduate students to think deeply about legal systems and the continual evolution of business practice and business law. This process is multidimensional and involves social, political, ethical, and technological factors. In the course, students examine how key areas of business law influence the structure of societal and business relationships, while honing their analytical, communication, and writing skills.

Prerequisite: None.

## CHEM-SHU 125

**Foundations of Chemistry I**

This course constitutes an introduction to general aspects of chemistry for science, engineering and math majors. Topics include the theories of atomic structure, stoichiometry, properties of gases, kinetic molecular theory, thermodynamics, quantum mechanics, electronic structure of atoms, periodicity of the elements, chemical bonding, and molecular structure. A particular emphasis is placed on developing physical and chemical intuition through problem solving.

Prereq or coreq: MATH-SHU 121 (Calculus) or MATH-SHU 201 (Honors Calculus)

## CHEM-SHU 126

**Foundations of Chemistry II**

This course is a continuation of Foundations of Chemistry I. Topics covered include the theories of intermolecular interactions, molecular orbital theory, reaction kinetics, chemical equilibria, acid-base reactions, properties of solutions, properties of solids, phase changes, transition-metal chemistry, coordination chemistry, electrochemistry, and nuclear chemistry. Students will reinforce and refine their physical and chemical intuition with a problems-based approach.

Prereq: CHEM-SHU 125 Foundations of Chemistry I AND prereq or coreq: MATH-SHU 121 Calculus or MATH-SHU 201 Honors Calculus

## CHEM-SHU 127

**FoS Chemistry Laboratory**

In this laboratory course, students will be familiarized with various techniques, equipment, data analysis skills, best practices in lab safety and ideas common to chemistry laboratories and experimental research. The lab will both introduce and reinforce principles covered in the Foundations of Chemistry Lectures by providing practical applications of chemical theories, including acid-base chemistry, thermodynamics, spectroscopy, chemical kinetics, and buffer solutions, and applying quantitative data analysis in the chemistry lab. In addition, the laboratory will emphasize scientific communication, including scientific writing. As part of the course, students will work on a multi-week project, comparable to a graduate level independent-research project. Previous activities have included studying crystal growth and DNA thermodynamic parameters. With the help of their instructors and peers, students will learn the skills of modern scientific research: proposing a hypothesis, developing a proposal to test the hypothesis, collecting and analyzing data, writing a report, and presenting the findings to the public as a poster or an oral presentation. These skills will help students to develop and build their careers regardless of the major or discipline of study they are seeking.

Prereq or coreq: CHEM-SHU 126 (Foundations of Chemistry II). This course satisfies FoS and core curriculum ED.

## CHEM-SHU 225

**Organic Chemistry I**

This course uses an interactive, problems-based approach to study the structure and bonding of organic materials, conformational analysis, stereochemistry, and spectroscopy, topics that partly trace their roots to the development of quantum theory. The topics covered include basic reaction mechanisms such as substitution and elimination, and the reactions of aliphatic and aromatic hydrocarbons, alcohols, ethers, amines, carbonyl compounds, and carboxylic acids. The course incorporates modern analytical methods that are the cornerstone of contemporary organic chemistry.

Prereqs: CHEM-SHU 126 (Foundations of Chemistry II) and CHEM-SHU 127 (FoS Chemistry Laboratory). Coreq: CHEM-SHU 225L (Organic Chemistry I Lab). This satisfies a Required Course of the Chemistry Major.

## CHEM-SHU 225L

**Organic Chemistry I Lab**

This laboratory course will introduce students to important concepts and techniques for carrying out, purifying, and analyzing organic chemical reactions. Purification methods such as recrystallization, extraction, distillation, and column chromatography will be utilized. Students will be introduced to organic analysis methods by determining the composition and purity of their synthesized compounds through physical property measurements (melting point, boiling point), thin-layer chromatography (TLC), gas chromatography (GC), and infrared (IR), ultraviolet (UV) and visible light spectroscopy. The knowledge and critical thinking skills gained in this course will prepare students for a wide array of potential future challenges, including the upper level courses, organic requirements for medical schools, and independent research.

Coreq: CHEM-SHU 225 (Organic Chemistry I). This satisfies a Required Course of the Chemistry Major.

## CHEM-SHU 226

**Organic Chemistry II**

This is a continuation of the course Organic Chemistry I, directing to the same objectives: An introduction to the world of Organic Chemistry; learning the main classes of compounds, their structure, nomenclature, reactivity and reactions. Students who complete the course should be able to understand the symbolism used in organic chemistry, the three-dimensional structure of organic molecules, and how that influences organic reactions. Students will learn standard reaction mechanisms and relate those to compounds and reactions they have not encountered. This will enable students to predict the major product of reactions on organic compounds containing one or more functional groups and to design simple organic syntheses. Students should be able to read and comprehend articles from the current literature.

Prereq: CHEM-SHU 225 (Organic Chemistry I). Coreq: CHEM-SHU 226L (Organic Chemistry II Lab). This satisfies a Required Course of the Chemistry Major.

CHEM-SHU 226L

**Organic Chemistry II Lab**

This laboratory course is a continuation of Organic Chemistry I Lab. Students will gain further training in carrying out organic chemical reactions and product extraction, purification and analysis. Students who complete the course will be able to correlate, for the different functional groups studied, the molecular structure with common chemical and physical properties (such as solubility, reactivity, boiling and melting points). Students will learn to characterize and elucidate molecular identity and structure using chemical, physical, and spectroscopic techniques including polarimetry, infrared (IR), and nuclear magnetic resonance (NMR) spectroscopy.

Coreq: CHEM-SHU 226 (Organic Chemistry II). This satisfies a Required Course of the Chemistry Major.

CHEM-SHU 312

**Analytical Chemistry**

Analytical Chemistry uses qualitative and quantitative analytical tools for ascertaining the chemical composition of a substance. In this course, students will be introduced to instrumental methods, including titrations, spectroscopy (UV-Vis, FTIR, NMR, Mass Spectroscopy, Atomic Absorption Spectroscopy) and chromatography. Quantitative measurement methods will be introduced along with the statistical concepts and tools of estimation, confidence, accuracy and precision. Students will learn the theoretical and practical aspects of Analytical Chemistry through lectures and laboratory demonstrations.

Prereqs: CHEM-SHU 126 (Foundations of Chemistry II) and CHEM-SHU 127 (FoS Chemistry Laboratory). This satisfies an Elective Course of the Chemistry Major.

CHEM-SHU 651

**Physical Chemistry: Quantum Mechanics and Spectroscopy**

An introduction to quantum mechanics—general principles and applications to important model systems. Covers electronic structure of one- and many-electron atoms, theory of chemical bonding in diatomic and polyatomic molecules. Includes principles and applications of molecular spectroscopy: rotational, vibrational, electronic, and nuclear magnetic resonance. Elements of photochemistry are also included.

Prereqs: CHEM-SHU 126 (Foundations of Chemistry II) and CHEM-SHU 127 (FoS Chemistry Laboratory) and MATH-SHU 121 (Calculus) and (PHYS-SHU 12 (General Physics II) OR PHYS-SHU 93 (Foundations of Physics II Honors)). This satisfies a Required Course of the Chemistry Major.

CHEM-SHU 652

**Physical Chemistry: Thermodynamics and Kinetics**

Develops the close connection between the microscopic world of quantum mechanics and the macroscopic world of thermodynamics. Topics include properties of gases, kinetics, elementary statistical thermodynamics, and thermodynamics of single and multicomponent systems.

Prereqs: CHEM-SHU 126 (Foundations of Chemistry II) and CHEM-SHU 127 (FoS Chemistry Laboratory) and MATH-SHU 121 (Calculus) and (PHYS-SHU 12 (General Physics II) OR PHYS-SHU 93 (Foundations of Physics II Honors)). This satisfies a Required Course of the Chemistry Major.

CHEM-SHU 661

**Physical Chemistry Laboratory**

Introduction to the principles and practices of experimental methods widely used in analytical and research laboratories. Emphasizes understanding of background physicochemical theory, as well as capabilities and limitations of methods and interpretations of data. Covers instrumental methods, such as UV/visible spectroscopy, FT-IR, NMR, and fluorescence, for the systematic characterization of compounds and the use of interfaced computers for data collection and spreadsheet analysis. Studies also include an introduction to computer modeling of molecular properties. Optional experiments include fluorescence studies of protein denaturation and laser studies of excited state kinetics.

Prereq or coreq: CHEM-SHU 651 (Physical Chemistry: Quantum Mechanics and Spectroscopy) OR CHEM-SHU 652 (Physical Chemistry: Thermodynamics and Kinetics). This satisfies a Required Course of the Chemistry Major.

CHEM-SHU 711

**Inorganic Chemistry**

Studies of methods in inorganic chemistry that make use of symmetry to describe bonding and spectra of inorganic compounds with an interdisciplinary emphasis whenever feasible. Reactions and kinetics are also discussed for inorganic, organometallic, and bioinorganic compounds. Selected topics in main group chemistry are also included.

Prereq: CHEM-SHU 226 (Organic Chemistry II) AND prereqs or coreqs (CHEM-SHU 651 (Physical Chemistry: Quantum Mechanics and Spectroscopy) and CHEM-SHU 652 (Physical Chemistry: Thermodynamics and Kinetics). This satisfies an Elective Course of the Chemistry Major.

CHEM-SHU 752

**Computational Chemistry**

Computational Chemistry, the study of chemical systems with computer modelling and simulation, provides a sophisticated set of tools that every practicing chemist should know about. This course will introduce both the theoretical and practical aspects of modern computational chemistry, with an emphasis on quantum chemical methods. Lectures are combined with hands-on computational exercises using state-of-the-art high-performance computing-based tools. Topics include Molecular Mechanics, Molecular Dynamics, Ab Initio Molecular Orbital Theories (Hartree-Fock and Density Functional Theory), Calculation of Molecular and Spectroscopic Properties, and

Electronic Excitations. With these tools, students will engage in an independent research project of their design. Prerequisites: (CHEM-SHU 651 (Physical Chemistry: Quantum Mechanics and Spectroscopy) OR PHYS-SHU 301 (Quantum Mechanics)), AND (CHEM-SHU 652 (Physical Chemistry: Thermodynamics and Kinetics) OR PHYS-SHU 302 (Statistical Mechanics and Thermodynamics)). Strongly recommended: MATH-SHU 123 Multivariable Calculus. Useful: MATH-SHU 265 (Linear Algebra and Differential Equations). This satisfies an Elective Course of the Chemistry Major.

CHEM-SHU 881

**Biochemistry I**

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This course offers deeper and more complete treatments of the chemistry of living cells and biological chemistry than in the Foundations of Science courses. Topics include structure and function of proteins, lipids, carbohydrates, and nucleic acids; enzyme structure, mechanism and regulation of enzyme activity, and membrane structure and transport; mechanisms of cellular processes and cellular physiology, including ion channels and pumps, cell motility, and the immune response.

Prereq: CHEM-SHU 226 (Organic Chemistry II). This satisfies an Elective Course of the Chemistry Major.

CHEM-SHU 882

**Biochemistry I**

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This course offers deeper and more complete treatments of the chemistry of living cells and biological chemistry than in the Foundations of Science courses. Topics include structure and function of proteins, lipids, carbohydrates, and nucleic acids; enzyme structure, mechanism and regulation of enzyme activity, and membrane structure and transport; mechanisms of cellular processes and cellular physiology, including ion channels and pumps, cell motility, and the immune response.

Prereq: CHEM-SHU 226 (Organic Chemistry II). This satisfies an Elective Course of the Chemistry Major.

## CHIN-SHU 10

**Chinese Bridge Online-Elementary Level**

This Chinese Bridge online- Elementary level is designed for NYU Shanghai students who are currently studying away. This ten-week non-credit internet-based Chinese language study will provide language materials based on Elementary level vocabulary and grammars to help students to review and maintain the language proficiency and help prepare students for the intermediate level study while being absent from the target language environment. This online study will be held twice a week, with one recorded video and one live session online. By completing the study with the Chinese Bridge Online, students will not only review the most of the important vocabulary and grammars from Elementary level in new topics, but also have opportunity to learn new useful words and phrases in authentic context and therefore students will be ready for moving on to next Intermediate level.

## CHIN-SHU 20

**Chinese Bridge Online-Intermediate level**

This Chinese Bridge Online-Intermediate level is designed for NYU Shanghai students who are currently studying away. Students who have finished Intermediate Chinese II or Advanced Chinese I are all welcomed to enroll. This ten-week non-credit internet-based online study will provide language materials based on Intermediate level topics, vocabulary and grammars to help students to review and maintain the language proficiency while being absent from the target language environment. In addition, this online study will cover part of HSK level 4 vocabulary and others that are needed for preparation of Advanced level Chinese. This online study will be held twice a week, with one recorded class and one live session online (students can choose one from the two live sessions offered per week to take part it). By successfully completing this level of Chinese Bridge Online immediately before the semester you intend to enroll in Advanced Chinese I in Shanghai, students will receive a recommendation from the instructor to be exempted from the placement test to pursue advanced level courses if students fulfill the attendance requirement and homework requirement.

## CHIN-SHU 101

**Elementary Chinese I**

This course is the first part of a one-year elementary-level Chinese course designed for students who have no or almost no knowledge of Mandarin Chinese. It is designed to develop language skills in listening, speaking, reading, and writing as it relates to everyday life situations. The objectives of the course are: (1) to master the Chinese phonetic system (pinyin and tones) with satisfactory pronunciation; (2) to understand the construction of commonly used Chinese Characters (both simplified and traditional) and learn to write them correctly; (3) to understand and use correctly basic Chinese grammar and sentence structures; (4) to build up essential vocabulary; (5) to read and write level appropriate passages (100-150 characters long); and (6) to become acquainted with aspects of Chinese culture and society related to the course materials.

Prerequisite: None.

## CHIN-SHU 101S

**Elementary Chinese I - FoS1**

This course is a specially-designed 2-credit elementary-level Chinese course for students enrolled in Foundations of Science who have no or almost no knowledge of Mandarin Chinese. It covers the first half of the 4-credit Elementary I course and is designed to develop language skills in listening, speaking, reading, and writing as it relates to everyday life situations.

Prerequisite: None.

## CHIN-SHU 101S2

**Elementary Chinese I - FoS 2**

This course is the second half of a specially-designed 2-credit elementary-level Chinese course for students enrolled in Foundations of Science who have no or almost no knowledge of Mandarin Chinese. It covers the latter half of the 4-credit Elementary I course and is designed to develop language skills in listening, speaking, reading, and writing as it relates to everyday life situations.

Prerequisite: Successful completion of first half.

## CHIN-SHU 102

**Elementary Chinese II**

This course is the second part of a one-year elementary-level Chinese course designed for students who have completed NYU-SH's Elementary Chinese I or equivalent. It is designed to reinforce and further develop language skills in listening, speaking, reading, and writing as it relates to everyday life situations. The objectives of the course are: (1) to continue mastering the Chinese phonetic system (pinyin and tones); (2) to become further familiarized with the construction of commonly used Chinese Characters (both simplified and traditional); (3) to understand and use correctly basic Chinese grammar and sentence structures; (4) to continue building up essential vocabulary; (5) to read and write level appropriate passages (150-200 characters long); and (6) to become acquainted with aspects of Chinese culture and society related to the course materials.

Prerequisite: CHIN-101.

## CHIN-SHU 102S

**Elementary Chinese II FoS**

This specially-offered course for students enrolled in Foundations of Science is the first half of the regular Elementary Chinese II course, designed for students who have completed NYU-SH's Elementary Chinese I or

equivalent. It is designed to reinforce and further develop language skills in listening, speaking, reading, and writing as it relates to everyday life situations.

Prerequisite: CHIN-101 or 101S2.

CHIN-SHU 102S2

### **Elementary Chinese II FoS 2**

This specially-offered course for students enrolled in Foundations of Science is the second half of the regular Elementary Chinese II course, designed for students who have completed the first half of NYU-SH's Elementary Chinese II for students in FoS. It is designed to reinforce and further develop language skills in listening, speaking, reading, and writing as it relates to everyday life situations.

Prerequisite: Successful completion of first half.

CHIN-SHU 111

### **Elementary Chinese I for Advanced Beginners**

This course is the first part of a one-year elementary-level Chinese course designed for students who can understand and speak conversational Chinese related to daily-life situations, but have not learned to read/write Chinese characters. This includes students who were raised in a non-Chinese speaking country but in a home where the Mandarin Chinese dialect was spoken, and/or students who have acquired a certain level of Mandarin Chinese language proficiency (primarily speaking and listening) by living or working in a Chinese speaking country/region for an extended time. Though speaking and listening will be an integral part of the course, the major focus will be on developing students' competence in reading and writing. The objectives of the course are: 1) to master the Chinese phonetic system (pinyin and tones) with satisfactory pronunciation; 2) to understand the construction of commonly used Chinese Characters (both simplified and traditional) and write them correctly; 3) to build up essential vocabulary needed to read and write about topics covered in the textbook; 4) to understand and use correctly basic Chinese grammar and sentence structures; 5) to comprehend level appropriate passages and to be able to perform simple sentence analysis; 6) to write level appropriate essays (250-300 characters long) with grammatical accuracy as well as cohesion and coherence; 7) to become acquainted with and be able to discuss in speech and writing aspects of Chinese culture and society related to the course materials.

Prerequisite: Based on Placement Test.

CHIN-SHU 201

### **Intermediate Chinese I**

This course is the first part of a one-year intermediate-level Chinese course designed for students who have completed NYU-SH's Elementary Chinese II or equivalent. It is designed to consolidate and develop overall aural-oral proficiency. Objectives are: (1) to be able to obtain information from more extended conversation; (2) to express and expound on, in relative length, feelings and opinions on common topics; (3) to develop vocabulary needed to discuss common topics and begin learning to decipher meaning of compound words; (4) to develop reading comprehension of more extended narrative and expository passages; (5) to write, in relative length (200-250 characters long), personal narratives, informational narratives, comparison and discussion of viewpoints with level-appropriate vocabulary and grammatical accuracy, as well as basic syntactical cohesion; (6) to continue being acquainted with aspects of Chinese culture and society related to the course materials.

Prerequisite: CHIN-102.

CHIN-SHU 201A

### **Intermediate Chinese I - Accelerated**

This accelerated course is the first part of a one-semester intermediate-level Chinese course designed for students who have completed NYU-SH's Elementary Chinese II or equivalent. It is designed to consolidate and develop overall aural-oral proficiency. Objectives are: (1) to be able to obtain information from more extended conversation; (2) to express and expound on, in relative length, feelings and opinions on common topics; (3) to develop vocabulary needed to discuss common topics and begin learning to decipher meaning of compound words; (4) to develop reading comprehension of more extended narrative and expository passages; (5) to write, in relative length (200-250 characters long), personal narratives, informational narratives, comparison and discussion of viewpoints with level-appropriate vocabulary and grammatical accuracy, as well as basic syntactical cohesion; (6) to continue being acquainted with aspects of Chinese culture and society related to the course materials.

Prerequisite: CHIN-102 or 102A; Co-requisite: CHIN-SHU 202A.

CHIN-SHU 201S1

### **Intermediate Chinese I - FoS1**

This course is a specially-designed 2-credit intermediate-level Chinese course for students enrolled in Foundations of Science who have completed Elementary II. It covers the first half of the 4-credit Intermediate I course.

Prerequisite: CHIN-102.

CHIN-SHU 201S2

### **Intermediate Chinese I - FoS2**

This course is a specially-designed 2-credit intermediate-level Chinese course for students enrolled in Foundations of Science who have completed Intermediate I FoS1. It covers the second half of the 4-credit Intermediate I course.

Prerequisite: CHIN-201S1.

CHIN-SHU 202

### **Intermediate Chinese II**

This course is the second part of a one-year intermediate-level Chinese course designed for students who have completed NYU-SH's Intermediate Chinese I or equivalent. It is designed to continue consolidating and developing overall aural-oral proficiency, gradually focusing more on semi-formal or formal linguistic expressions. Objectives are: (1) to further develop competence in obtaining information from more extended conversation; (2) to express and expound on, in more extended length, feelings and opinions on socio-cultural topics; (3) to develop more specialized vocabulary needed to discuss sociocultural topics; (4) to improve students' ability to decipher meaning of compound words; (5) to further develop reading comprehension of extended narrative, expository and simple argumentative passages; (6) to learn to solve simple syntactical problems independently; (7) to write, in relative length (250-300) characters long) informational narratives, expository and simple argumentative passages with level-appropriate vocabulary and grammatical accuracy, as well as basic syntactical cohesion; and (8) to continue being acquainted with aspects of Chinese culture and society related to the course materials.

Prerequisite: CHIN-201.

CHIN-SHU 202A

### **Intermediate Chinese II - Accelerated**

This accelerated course is the second part of a one-semester intermediate-level Chinese course designed for students who have completed NYU-SH's Intermediate Chinese I or equivalent. It is designed to continue consolidating and developing overall aural-oral proficiency, gradually focusing more on semi-formal or formal linguistic expressions. Objectives are: (1) to further develop competence in obtaining information from more extended conversation; (2) to express and expound on, in more extended length, feelings and opinions on socio-cultural topics; (3) to develop more specialized vocabulary needed to discuss sociocultural topics; (4) to improve students' ability to decipher meaning of compound words; (5) to further develop reading comprehension of extended narrative, expository and simple argumentative passages; (6) to learn to solve simple syntactical problems independently; (7) to write, in relative length (250-300) characters long) informational narratives, expository and simple argumentative passages with level-appropriate vocabulary and grammatical accuracy, as well as basic syntactical cohesion; and (8) to continue being acquainted with aspects of Chinese culture and society related to the course materials.

Co-requisite CHIN-201A.

CHIN-SHU 211

### **Intermediate Chinese I for Advanced Beginners**

This course is designed for students who have at least one year of Chinese language learning at NYU and who, before registering for this course, already command above-elementary aural-oral proficiency in Mandarin Chinese. The objectives are: to be able to obtain information from extended written passages; to both express and expound on, in relative length, feelings and opinions on common social and cultural topics; to expand vocabulary and learn to decipher the meaning of compound words; to develop reading comprehension of extended expository and simple argumentative passages; to solve non-complex textual problems with the aid of dictionaries; to write in relative length personal narratives, informational narratives, comparison and discussion of viewpoints with level appropriate vocabulary and grammatical accuracy, as well as syntactical cohesion; to continue to become acquainted with aspects of Chinese culture and society related to the course materials.

Prerequisite: CHIN-111.

CHIN-SHU 221

### **Chinese Immersion Program: Intermediate I**

For the first time ever, NYU Shanghai is delighted to offer the new Chinese Language Immersion program during Summer 2017. Students can enroll in the program and complete Intermediate I and Intermediate II level, or Advanced I and Advanced II level. Students must already be placed at an Intermediate I or Advanced I level. The NYU Shanghai Chinese Language Program is a 9 week summer program intended to enable students who are serious about studying Chinese language in a total immersion environment to cover a semester's worth of material and to earn four NYU Shanghai credits. This rigorous, demanding, and rewarding language program allows students to have first-hand experience in using Chinese in real world situations as well as studying and practicing it in the classroom. To ensure more effective teaching and learning, classes are capped at 10 students. In the afternoons during weekdays, students can participate in extracurricular activities such as series talks, local visits, Chinese cultural classes, movie evenings, Tai Chi, Chinese calligraphy, Chinese cooking, etc. Students participate in these activities based on their preferences and time schedules or requirements. For more details, please visit the Chinese Immersion Program website. Shanghai students will not need to formally apply but an interview with a Chinese language instructor and selection to participate will be required. There are two tracks, Intermediate or Advanced. Co-requisite: CHIN-SHU 222

CHIN-SHU 222

### **Chinese Immersion Program: Intermediate II**

For the first time ever, NYU Shanghai is delighted to offer the new Chinese Language Immersion program during Summer 2017. Students can enroll in the program and complete Intermediate I and Intermediate II level, or Advanced I and Advanced II level. Students must already be placed at an Intermediate I or Advanced I level. The NYU Shanghai Chinese Language Program is a 9 week summer program intended to enable students who are serious about studying Chinese language in a total immersion environment to cover a semester's worth of material and to earn four NYU Shanghai credits. This rigorous, demanding, and rewarding language program allows students to have first-hand experience in using Chinese in real world situations as well as studying and practicing it in the



classroom. To ensure more effective teaching and learning, classes are capped at 10 students. In the afternoons during weekdays, students can participate in extracurricular activities such as series talks, local visits, Chinese cultural classes, movie evenings Tai Chi, Chinese calligraphy, Chinese cooking, etc. Students participate in these activities based on their preferences and time schedules or requirements. For more details, please visit the Chinese Immersion Program website. Shanghai students will not need to formally apply but an interview with a Chinese language instructor and selection to participate will be required. There are two tracks, Intermediate or Advanced. Co-requisite: CHIN-SHU 221.

CHIN-SHU 301

#### **Advanced Chinese I**

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This course is the first part of a one-year Advanced Chinese course designed for students who have successfully completed Intermediate Chinese II at NYU-SH, or who have at least the equivalent knowledge of Chinese upon registration. It is designed to reinforce and further improve students' overall communicative competence by incorporating semi-formal or formal usages. The objectives of the course are: (1) to learn to apply formal linguistic expressions in speaking and writing; (2) to acquire specialized vocabulary and patterns necessary for conducting formal discussions of socio-cultural topics; (3) to develop reading comprehension of texts with more advanced syntax; (4) to learn to make context-based guess about the meaning of a new word and further enhance students' ability to analyze as well as produce sentences with more complex syntactical features; (5) to learn to write expository and argumentative passages in more extended length; and (6) to learn to employ basic rhetoric devices in writing.

Prerequisite: CHIN-202.

CHIN-SHU 302

#### **Advanced Chinese II**

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This course is the second part of a one-year Advanced Chinese course designed for students who have successfully completed Advanced Chinese I at NYU-SH, or who have the equivalent knowledge of Chinese upon registration. It is designed to reinforce and further improve students' overall communicative competence by incorporating semi-formal or formal usages. The objectives of the course are: (1) to enhance further students' oral and written communicative competence using formal linguistic expressions; (2) to expand further specialized vocabulary and patterns necessary for conducting formal discussions of socio-cultural topics relevant to today's China; (3) to improve further students' reading comprehension of texts with more advanced syntax; (4) to develop further their competence in making context-based guess about the meaning of a new word, and further enhance ability to analyze as well as produce sentences with more complex syntactical features; (5) to improve further their ability to write expository and argumentative passages in more extended length; (6) to improve their ability to effectively employ basic rhetoric devices in writing.

Prerequisite: CHIN-301.

CHIN-SHU 321

#### **Chinese Immersion Program: Advanced I**

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For the first time ever, NYU Shanghai is delighted to offer the new Chinese Language Immersion program during Summer 2017. Students can enroll in the program and complete Intermediate I and Intermediate II level, or Advanced I and Advanced II level. Students must already be placed at an Intermediate I or Advanced I level. The NYU Shanghai Chinese Language Program is a 9 week summer program intended to enable students who are serious about studying Chinese language in a total immersion environment to cover a semester's worth of material and to earn four NYU Shanghai credits. This rigorous, demanding, and rewarding language program allows students to have first-hand experience in using Chinese in real world situations as well as studying and practicing it in the classroom. To ensure more effective teaching and learning, classes are capped at 10 students. In the afternoons during weekdays, students can participate in extracurricular activities such as Tai Chi, Chinese calligraphy, Chinese cooking, etc. Students participate in these activities based on their preferences and time schedules. For more details, please visit the Chinese Immersion Program website. Shanghai students will not need to formally apply but an interview with a Chinese language instructor and selection to participate will be required. There are two tracks, Intermediate or Advanced.

Co-requisite: CHIN-SHU 322

CHIN-SHU 322

#### **Chinese Immersion Program: Advanced II**

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For the first time ever, NYU Shanghai is delighted to offer the new Chinese Language Immersion program during Summer 2017. Students can enroll in the program and complete Intermediate I and Intermediate II level, or Advanced I and Advanced II level. Students must already be placed at an Intermediate I or Advanced I level. The NYU Shanghai Chinese Language Program is a 9 week summer program intended to enable students who are serious about studying Chinese language in a total immersion environment to cover a semester's worth of material and to earn four NYU Shanghai credits. This rigorous, demanding, and rewarding language program allows students to have first-hand experience in using Chinese in real world situations as well as studying and practicing it in the classroom. To ensure more effective teaching and learning, classes are capped at 10 students. In the afternoons during weekdays, students can participate in extracurricular activities such as Tai Chi, Chinese calligraphy, Chinese cooking, etc. Students participate in these activities based on their preferences and time schedules. For more details, please visit the Chinese Immersion Program website. Shanghai students will not need to formally apply but an interview with a Chinese language instructor and selection to participate will be required. There are two tracks, Intermediate or Advanced.

Co-requisite: CHIN-SHU 321.

**CHIN-SHU 401****Classical Chinese I**

This course is designed to give students an introduction to basic syntax, grammar, and vocabulary of Classical Chinese through close readings of authentic texts. Almost all these texts are historically significant canon texts that are extremely rich in classical Chinese cultural connotation. They are selected from a wide variety of genres, such as historical literature, philosophical and political writings, written correspondence, poetry, essay, some of which are unique to Chinese culture. The course aims to develop the students' reading and comprehension skills in this highly stylized form of written Chinese, acquaint students not only with the classic Chinese cultural heritage but also underlying working mechanism that is in many ways relevant to the form and usage of today's Mandarin Chinese. Prerequisite: CHIN-302.

**CHIN-SHU 402****Classical Chinese II**

This course continues the work begun in Classical Chinese I with the goal that students be able to read with reasonable facility original texts, included unpunctuated ones, from a wide variety of genres, including historical literature, philosophical and political writings, written correspondence, poetry, essays and official documents. Prerequisite: CHIN-401(Classical Chinese I). This course fulfills GCS Elective for Non-native Chinese Speaker, and satisfies language core.

**CHIN-SHU 403****Readings in Chinese Culture I**

Chinese language at fourth-year level. Designed to enhance Chinese proficiency through studying authentic materials rich in cultural connotations, focusing primarily on reading and writing. Objectives are: to develop language skills needed for semi-formal and formal presentation on academic topics; to further improve reading comprehension and develop skills needed to conduct textual analysis of passages with sophisticated syntax and semantic nuance; to develop responsiveness to and ability to interpret stylized usage; to advance strategies for autonomous learning of Chinese language from an analytical perspective. For the first part of this year-long sequence, reading materials will generally be selected from China's modern period (1919–1949). Prerequisite CHIN-302.

**CHIN-SHU 404****Readings in Chinese Culture II**

Designed to enhance Chinese proficiency through reading authentic materials rich in cultural connotations. Stresses primarily reading and writing. The objectives are: to develop speaking skills needed for semi-formal or formal presentation on academic topics; to develop specialized vocabulary; to further improve reading speed and develop skills needed to conduct textual analysis on and, on some occasions, translate texts with syntactical sophistication and stylistic nuance; to develop responsiveness to and ability to interpret linguistic features of different genres and writing styles; to advance strategies for autonomous learning of Chinese from an analytical perspective. Prerequisite: CHIN-302.

**CHIN-SHU 405****Reading Chinese Newspapers**

This 4-credit course is a post-advanced Chinese language course, which meets twice a week, 90 minutes for each meeting and is designed for students who have completed Advanced Chinese II(CHIN-SHU-302, or EAST-UA-206) or the equivalent. This course, through intensive and extensive readings of authentic materials selected from major Chinese newspapers and periodicals in China and abroad and robust in and out-of-class exercises and assignments, intends to help students further enhance their language skills with special focus on reading and writing competence, further enrich their knowledge about China society and Chinese culture, and further improve their abilities in conducting in-depth analysis, discussion, debate, comparison, contrast and conclusion orally and in written mode in Chinese language. The articles will be selected from the latest issues in newspapers and periodicals with topics ranging from culture inheritance, social entertainment to economics, technology, new lifestyle, etc., which provide different perspectives for students to observe and study phenomena (including their origins and evolutions) in modern Chinese society and Chinese culture. The course also focuses on language learning, aiming at helping students accumulate more formal written-style vocabulary and getting acquaintance with the modes, structures and characteristics of Chinese formal news reports. Prerequisites: Advanced Chinese II or the equivalent.

**CHIN-SHU 411****Introduction to Business Chinese and Culture**

This course is designed for those who have studied Mandarin to the intermedia high or advanced level (or equivalent). The main goal of the course is to continuously enhance students' Chinese proficiency while, at the same time, preparing them for working more comfortably and confidently in a Chinese business environment. In recent years, along with the rapid growth of Chinese economy, issues on Chinese business and economy became a hot topic. Following this trend, the course is aimed to enhance students' Chinese skills in the business context and promote their understanding of the macro and micro business environment and culture in China. An approach placing more emphasis on case study is adopted along with task-based language teaching. The course will cover the first five chapters of the textbook which is developed surrounding five real-life business cases. These five companies are all multinational that have successfully operated in China by adapting their strategies to the special needs of the Chinese market. By reading, discussing, and performing communicative tasks related to those cases, students will learn how to use Chinese as a "carrier of culture"; thus acquiring a better understanding of China in economic

and, broadly defined, cultural terms. The case study will also inspire students to explore the Chinese consumers' interest and mentality, so that they will occupy a more qualified position to explore a successful road toward "doing business within China."

In order to enhance students' understanding of the business cases, clips of the selected television interviews and talk shows will be used to accomplish the following four goals: First, the content of the textbook and the background information offered by the supplementary media materials complement each other. Second, key terms and expressions in the textbook will be repeated in the learning process to help students reinforce the knowledge. Third, in terms of cross-usage between colloquial and written language, students will have the opportunity to supplement their reading of written texts with the experience of watching television shows on the same or similar topics, which may help them understand the distinctions between the two language styles and accurately utilize both language registers to express their own ideas in different settings. Fourth, the authentic visual materials can help close the gap between pedagogy and the real world, most effectively enabling students to become familiar with all varieties of Chinese accents, – including those of Hong Kong, Taiwan and even foreigners speaking Chinese – thereby strengthening students' abilities of practical application in the real world. In order to expand and update students' knowledge on various business-related issues, in addition to the business case 2 analysis, supplementary listening, reading, writing exercises will also be provided in class. Highlights of these exercises are: Listening comprehension of business news reports on current issues; discussion of Chinese business laws, translation of business terms and documents, and commercial language and word processing. For students who are interested in pursuing career opportunities in Mainland China or Hong Kong, the course will teach the proper ways to compose a Chinese resume while, at the same time, introducing related job interview skills. By the end of the semester, students are expected to: (1) expand business vocabulary and strengthen the communication skills in real business settings; (2) enhance the cultural awareness about China and the Chinese business world; (3) improve listening comprehension of authentic Chinese media materials; (4) improve reading, writing and translation skills of business terminologies and documents; (5) be able to use Chinese language software for certain business purposes. Class will be conducted in Chinese.

Prerequisite: CHIN-301 and Instructor's permission CHIN-302.

CHIN-SHU 415

#### **Introduction to Contemporary China I**

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This course is a post advanced Chinese language course and is designed for those students who have completed Advanced Chinese II at NYU-SH or NYU (or the equivalent) and intend to further enhance their language skills and knowledge about different aspects of China. It's designed to help students to know the hot issues taking place in modern China and improve their ability to understand the cultural components and components and thinking modes behind the issues and their ability in expressing their opinions and carrying out discussions and debates on these issues in Chinese language. This course integrates the language learning with the study of social issues of modern China, and covers the authentic materials with topics ranging from China human geography, Chinese political system, Chinese economy, Chinese education, to Chinese science and technology.

Prerequisite: CHIN-302.

CHIN-SHU 416

#### **Introduction to Contemporary China II**

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This course is a post advanced Chinese language course and is designed for those students who have completed Advanced Chinese II at NYU-SH or NYU (or the equivalent) and intend to further enhance their language skills and knowledge about different aspects of China. It's designed to help students to know the hot issues taking place in modern China and improve their ability to understand the cultural components and thinking modes behind the issues and their ability in expressing their opinions and carrying out discussions and debates on these issues in Chinese language. This course integrates the language learning with the study of social issues of modern China, and covers the authentic materials with topics ranging from Chinese science and technology, Chinese beliefs and religions, Chinese marriage, environment protection, Chinese media to Chinese floating population.

Prerequisite: CHIN-302. This course fulfills GCS Elective for Non-native Chinese Speaker.

CHIN-SHU 429

#### **Advanced High Business Chinese - Cases from Real World**

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The course is aimed to (1) enhance students' professional Chinese-English bilingual skills in the business context and (2) promote their understanding of the macro and micro business environment and culture in China and the larger world. Adopting a case-study oriented approach that emphasizes task-based language teaching, the course, by concentrating on five real-life cases from the business world, provides a bilingual introduction to such concepts and phenomenon as business globalization, international expansion and integration, mergers and acquisition, branding strategies, impact of "Made in China" on the Chinese global economy, antidumping, and government relations, etc. Along with the case study, some of the relevant Finance, Consulting, Marketing and Accounting knowledge will also be introduced bilingually. By the end of the semester, students are expected to be equipped with enhanced Chinese and English skills to function more comfortably and confidently in the transition toward pursuing a Business-Finance major as well as preparing for future internships or job interviews. This course will be mainly conducted in Chinese with a thorough introduction of Business and Finance terminologies and concepts in BOTH Chinese and English.

CHIN-SHU 9000

#### **Introduction to Conversational Chinese**

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This two-credit language course for Study Away Students only introduces students to Chinese language and culture. It is aimed at students with no prior knowledge of Chinese. The language component of the course runs for 14 weeks and focuses on the development of competence in verbal communication and communication structures

which can be used in daily life in China. The culture component includes excursions that are closely tied to the language topics being studied. This course does NOT cover Elementary I. It is designed for students who

- do not need to complete Elementary I for their major, or have already completed the language requirement for their major,
- and/or students who have been to two other global sites Students cannot take this class if they have already:
  - Passed Elementary Chinese 1 or the equivalent or higher
  - Are a native Chinese speaker.

CHIN-SHU 9002

#### **Introduction to Conversational Chinese--4 Credits**

This four-credit language course for Study Away Students only introduces students to Chinese language and culture. It is aimed at students with no prior knowledge of Chinese. The language component of the course runs for 14 weeks and focuses on the development of competence in verbal communication and communication structures which can be used in daily life in China. The culture component includes excursions that are closely tied to the language topics being studied. Compared to the 2-credit Intro to Conversation Chinese, this 4-credit course will have a wider coverage of topics, vocabulary and grammar, more activities and field trips, and meet 4 days a week of in-class instructions over the 14 weeks. This course does NOT cover Elementary I. It is designed for students who

- do not need to complete Elementary I for their major, or have already completed the language requirement for their major,
- and/or students who have been to two other global sites Students cannot take this class if they have already: Passed Elementary Chinese 1 or the equivalent or higher
- Are a native Chinese speaker

CSCI-SHU 11

## Introduction to Computer Programming

An introduction to the fundamentals of computer programming. Students design, write, and debug computer programs. No prior knowledge of programming is assumed. Students will learn programming using Python, a general purpose, cross-platform programming language with a clear, readable syntax. Most class periods will be part lecture, part lab as you explore ideas and put them into practice. This course is suitable for students not intending in majoring in computer science as well as for students intending to major in computer science but having no programming experience. Students with previous programming experience should instead take Introduction to Computer Science.

Prerequisite: Either placed into Calculus or at least a B in Pre-Calculus.

CSCI-SHU 101

## Introduction to Computer Science

This course has three goals. First, the mastering of a modern object-oriented programming language, enough to allow students to tackle real-world problems of important significance. Second, gaining an appreciation of computational thinking, a process that provides the foundations for solving real-world problems. Finally, providing an overview of the very diverse and exciting field of computer science - a field which, arguably more than any other, impacts how we work, live, and play today.

Prerequisite: Prerequisite: Introduction to Computer Programming or placement exam.

Equivalency: This course counts for CSCI-UA 101.

CSCI-SHU 210

## Data Structures

Use and design of data structures, which organize information in computer memory. Stacks, queues, linked lists, binary trees: how to implement them in a high-level language, how to analyze their effect on algorithm efficiency, and how to modify them. Programming assignments. Prerequisite: Intro to Computer Science or Instructor's consent.

Equivalency: This course counts for CSCI-UA 102 Data Structures (NY).

CSCI-SHU 215

## Operating Systems

Covers the principles and design of operating systems. Topics include process scheduling and synchronization, deadlocks, memory management (including virtual memory), input-output, and file systems. Programming assignments.

Prerequisite: Data Structures; Computer Architecture or Computer Systems Organization.

CSCI-SHU 220

## Algorithms

Introduction to the study of algorithms. Presents two main themes: designing appropriate data structures and analyzing the efficiency of the algorithms that use them. Algorithms studied include sorting, searching, graph algorithms, and maintaining dynamic data structures. Homework assignments, not necessarily involving programming.

Prerequisites: MATH-251& CSCI-210.

CSCI-SHU 222

## Introduction to Game Programming

A programming intensive introduction to the creation of computer games. Using mostly two-dimensional sprite-based programming, we examine and experiment with animation, physics, artificial intelligence and audio. In addition, the course explores the mathematics of transformations (both 2D and 3D) and the ways they may be represented.

Prerequisite: Data Structures OR CS-UY 2134 (Data Structures and Algorithms) OR ICS with Instructor Permission.

CSCI-SHU 235

## Information Visualization

Information visualization is the graphical representation of data to aid understanding, and is the key to analyzing massive amounts of data for fields such as science, engineering, medicine, and the humanities. This is an introductory undergraduate course on Information Visualization based on a modern and cohesive view of the area. Topics include techniques such as visual design principles, layout algorithms, and interactions as well as their applications of representing various types of data such as networks and documents. Overviews and examples from state-of-the-art research will be provided. The course is designed as a first course in information visualization for students both intending to specialize in visualization as well as students who are interested in understanding and applying visualization principles and existing techniques.

CSCI-SHU 302

## Introduction to Database Systems

CSCI-SHU 304

**Network Security**

This course covers reviews networking. Topics: Basic notations of confidentiality, integrity, availability; cryptographic systems, coding and decoding messages. Cryptographic protocols for privacy, integrity, key exchange and access control. TCP/IP security; Firewalls, IPsec; secure ecommerce. Intrusion detection, prevention, response. Advanced topics are included.

Prerequisite: CSCI-215.

CSCI-SHU 308

**Computer Networking**

This course takes a top-down approach to computer networking. After an overview of computer networks and the Internet, the course covers the application layer, transport layer, network layer and link layers. Topics at the application layer include client-server architectures, P2P architectures, DNS and HTTP and Web applications. Topics at the transport layer include multiplexing, connectionless transport and UDP, principles of reliable data transfer, connection-oriented transport and TCP and TCP congestion control. Topics at the network layer include forwarding, router architecture, the IP protocol and routing protocols including OSPF and BGP. Topics at the link layer include multiple-access protocols, ALOHA, CSMA/CD, Ethernet, CSMA/CA, wireless 802.11 networks and link layer switches. The course includes simple quantitative delay and throughput modeling, socket programming and network application development and Ethereal labs.

Prerequisite: CSCI-215.

CSCI-SHU 310

**UNIX System Programming**

This course covers programming and system administration of UNIX systems. Also covered: Shell programming, special purpose languages, UNIX utilities, UNIX programming tools, systems programming and system administration.

Prerequisite: CSCI-215 and 220.

CSCI-SHU 323

**Interactive Computer Graphics**

This course introduces the fundamentals of computer graphics with hands-on graphics programming experiences. Topics include graphics software and hardware, 2D line segment-scan conversion, 2D and 3D transformations, viewing, clipping, polygon-scan conversion, hidden surface removal, illumination and shading, compositing, texture mapping, ray tracing, radiosity and scientific visualization.

Prerequisites: CSCI-101, MATH-110 & MATH-230.

CSCI-SHU 330

**Computer Vision and Scene Analysis**

An important goal of artificial intelligence is to equip computers with the capability to interpret visual inputs. Computer vision and scene analysis is an AI area that deals with constructing explicit, meaningful descriptions of physical objects from images. It includes many techniques from image processing, pattern recognition, geometric modeling and cognitive processing. This course introduces the many techniques and applications of computer vision and scene analysis.

Prerequisites: CSCI-101; MATH-121.

CSCI-SHU 331

**Computer Architecture**

(Cross-listed with CENG-SHU 202).

CSCI-SHU 340

**Introduction to Databases**

Modeling the information structure of an enterprise. Logical design and relational database implementation using a tool such as Visio. Relational algebra and SQL as implemented in representative systems, such as Microsoft Access and Oracle. Normalization and denormalization. Introduction to online analytical processing, physical design, query processing and optimization, recovery, and concurrency.

Prerequisite: CSCI-101.

CSCI-SHU 358

**Theory of Computation**

Takes a mathematical approach to studying topics in computer science, such as regular languages and some of their representations (deterministic finite automata, nondeterministic finite automata, regular expressions) and proof of nonregularity. Context-free languages and pushdown automata; proofs that languages are not context-free. Elements of computability theory. Brief introduction to NP-completeness.

Prerequisite: CSCI-215 and 220 and MATH-228.

CSCI-SHU 360

### **Machine Learning and Data Mining**

This course introduces the field of machine learning and data mining. It covers standard machine-learning techniques, such as decision trees, nearest neighbor, Bayesian methods, support vector machines and logistic regression. The course also addresses methods for evaluating and comparing machine learning techniques. Prerequisite: CSCI-101; or (MATH-121 OR MATH-SHU 201) A grade of B+ or better in both courses recommended.

CSCI-SHU 370

### **Object-Oriented Programming**

Object-oriented programming has emerged as a significant software development methodology. This course introduces the important concepts of object-oriented design and languages, including code reuse, data abstraction, inheritance, and dynamic overloading. Covers in depth those features of Java and C++ that support object-oriented programming and gives an overview of other object-oriented languages of interest. Significant programming assignments stressing object-oriented design. Prerequisite: CSCI-210.

CSCI-SHU 372

### **Artificial Intelligence**

Many cognitive tasks that people can do easily and almost unconsciously have proven extremely difficult to program on a computer. Artificial intelligence tackles the problem of developing computer systems that can carry out these tasks. Focus is on three central areas in AI: representation and reasoning, machine learning, and natural language processing. Prerequisite: CSCI-215 and 220.

CSCI-SHU 378

### **Introduction to Cryptography**

Provides an introduction to the principles and practice of cryptography and its application to network security. Topics include symmetric-key encryption (block ciphers, modes of operations, AES), message authentication (pseudorandom functions, CBC-MAC), public-key encryption (RSA, ElGamal), digital signatures (RSA, Fiat-Shamir), authentication applications (identification, zero-knowledge), and others, time permitting. Prerequisite: CSCI-220.

CSCI-SHU 402

### **Advanced Algorithms**

This course covers techniques in advanced design and analysis of algorithms. Topics: Amortized analysis of algorithms. Advanced data structures, binomial heaps, Fibonacci heaps, data structures for disjoint sets, analysis of union by rank with path compression. Graph algorithms: elementary graph algorithms, maximum flow, matching algorithms. Randomized algorithms. Theory of NP completeness and approach to finding (approximate) solutions to NP complete problems. Selected additional topics that may vary. Prerequisite: CSCI-220.

CSCI-SHU 410

### **Software Engineering**

An intense hands-on study of practical techniques and methods of software engineering. Topics include: advanced object-oriented design, design patterns, refactoring, code optimization, universal modeling language, threading, user interface design, enterprise application development and development tools. All topics are integrated and applied during the semester-long group project. The aim of the project is to prepare students for dynamics in a real workplace. Members of the group will meet on a regular basis to discuss the project and to assign individual tasks. Students will be judged primarily on the final project presentations. Prerequisites: CSCI-215 and 220.

CSCI-SHU 420

### **Senior Project**

At the beginning of the semester, each student will propose a senior project plan. Most projects will be software intensive, with possible integration with databases, smart phones, gaming platforms, or other technologies. The instructor will likely suggest revisions to the project plan. Students were present the proposal, progress, and final project to the class.

CSCI-SHU 997

### **Independent Study**

*Prerequisite: permission of the department. Does not satisfy the major elective requirement. 2-4 credits. Students majoring in computer science are permitted to work on an individual basis under the supervision of a full-time faculty member in the department if they have maintained an overall GPA of 3.0 and a GPA of 3.5 in computer science and have a study proposal that is approved by a computer science professor. Students are expected to spend about two to three hours a week per credit (a 4-credit IS would involve about ten to twelve hours a week) on their project.*

CSCI-SHU 2314

**Discrete Mathematics**

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This course is an introduction to discrete mathematics, emphasizing proof and abstraction, as well as applications to the computational sciences. Topics include sets, relations, and functions, graphs and trees, algorithms, proof techniques, and order of magnitude analysis, Boolean algebra and combinatorial circuits, formal logic and languages, automata, and combinatorics, probability, and statistics.

Co-requisite MATH-SHU 121 or MATH-SHU 201. Equivalent to MATH-UA 120.



## CENG-SHU 201

### Digital Logic

This module provides a rigorous introduction to topics in digital logic design. Introductory topics include: classification of digital systems, number systems and binary arithmetic, error detection and correction, and switching algebra. Combinational design analysis and synthesis topics include: logic function optimization, arithmetic units such as adders and subtractors, and control units such as decoders and multiplexers. In-depth discussions on memory elements such as various types of latches and flip-flops, finite state machine analysis and design, random access memories, FPGAs, and high-level hardware description language programming such as VHDL or Verilog. Timing hazards, both static and dynamic, programmable logic devices, PLA, PAL and FPGA will also be covered. Prerequisite: Intro to Programming or Intro to Computer Science.

## CENG-SHU 202

### Computer Architecture

The main ambition of this course is to teach you how a modern computer works, starting from its most elementary components (transistors, resistors, capacitors) and then climbing up the ladder of abstraction to reach a high-level programming language like C and its compilation in machine code. In this excursion, we will learn (among other things) how to turn electrons into digital logic, how to make machine instructions execute faster through pipelining and prediction, and how to organize memory in hierarchies in order to make it more efficient. Since the only way to learn computer architecture is by practicing it, we will design a register transfer level (RTL) implementation of a MIPS-like processor in Verilog, and implement a simulator of the very same architecture in C. Preliminary syllabus of the course. General introduction to the course Dataflow and parallelism From silicon to transistors The digital abstraction Number systems Programming in C: basic types and control flow Programming in C: arrays, strings and functions Programming in C: pointers, structures and unions Programming in C: linked lists and beyond Programming in C: the Unix System interface Boolean logic Karnaugh maps Latches and flip-flops Finite state machines Binary and Synchronous Decision Diagrams Programming and simulating in Verilog [part I] Programming and simulating in Verilog [part II] Digital building blocks Compilation from C to MIPS Single-cycle microarchitectures Multi-cycle microarchitectures Pipelining and dependence hazards Out-of-order execution Memory hierarchies and cache Virtual memory Memory models and multiprocessor programming Equivalency: This course counts for CSCI-UA 201 Computer Systems Organization.

## CENG-SHU 213

### Database Systems

The course covers modeling an application and logical database design, the relational model and relational data definition and data manipulation languages, design of relational databases and normalization theory, physical database design, query processing and optimization, transaction processing focusing on concurrency and recovery. The labs emphasize experiential learning of database systems and applications and an insight into various database management systems and query languages. Prerequisite: CSCI-101.

## CENG-SHU 251

### Data Structures and Algorithms

The course covers modeling an application and logical database design, the relational model and relational data definition and data manipulation languages, design of relational databases and normalization theory, physical database design, query processing and optimization, transaction processing focusing on concurrency and recovery. The labs emphasize experiential learning of database systems and applications and an insight into various database management systems and query languages. Prerequisite: CSCI-101.

## CENG-SHU 302

### Compilers

Topics include: structure of one-pass and multiple-pass compilers, symbol table management, lexical analysis; traditional and automated parsing techniques including recursive descent and LR parsing; syntax-directed translation and semantic analysis, run-time storage management, intermediate code generation; and introduction to optimization, code generation; and interpreters. Prerequisites: CSCI-101 & CSCI-370.

## CENG-SHU 303

### Parallel and Distributed Computing

This subject aims to help students to get the most out of parallel and distributed computer systems, i.e. to understand the interaction between hardware and software parts of the system, to understand the power and limitations of parallel and distributed systems and to understand the beneficial and challenging aspects of parallelism. Upon completion of this subject the student should be able to understand the fundamental aspects of parallel and distributed processing and the theoretical limitations of parallel computing such as intractability, become familiar with taxonomies of parallel systems and performance measures for parallel systems, and write efficient parallel application program. Prerequisite: CENG-202.

## CENG-SHU 304

### Computer Security

This course covers cryptographic systems. Topics: Capability and access control mechanisms, authentication models,

protection models. Database and operating system security issues, mobile code, security kernels. Malicious code, Trojan horses and computer viruses. Security policy formation and enforcement, legal aspects and ethical aspects. Prerequisite: CSCI-215 and CENG-350.

CENG-SHU 306

### **Intelligent Systems**

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This course gives an introduction to artificial intelligence. The students will learn about intelligent agents that can make near-optimal decisions in a timely manner with incomplete information and limited computational resources. The course will address search with single and multiple agents, Markov decision processes, reinforcement learning, and tracking. The course includes problem solving and search algorithms, reasoning and fuzzy and probabilistic methods, pattern recognition and neural networks, and genetic algorithms and a brief overview of natural language processing and computer vision. The course will provide an engineering context to the mind, psychology, and neuroscience.

Prerequisite: CENG-202.

CENG-SHU 350

### **Embedded Systems**

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This course presents an overview of Embedded Systems covering a selection of topics including Microcontroller Architecture, Assembler Programming, Interrupts, Peripheral Interfacing, Embedded System Design, Higher-Level Languages on Embedded Systems, as well as a brief introduction to Real-Time Operating Systems. Practical Lab Exercises complement the lectures. The students will further specialize and consolidate their knowledge through semester-long hands-on projects.

Prerequisite: CENG-202.

CENG-SHU 351

### **Computer Networks**

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The course introduces the basic concepts of computer and communication networks, like flow control, congestion control, end-to-end reliability, routing, framing, error-recovery, multiple access and statistical multiplexing. In-depth presentation of the different networking layers, with emphasis on the Internet reference model. Protocols and architectures such as the TCP, IP, Ethernet, wireless networks etc. are described in order to illustrate important networking concepts. Introduction to quantitative analysis and modeling of networks. The labs cover basic concepts of computer networking and applications, and require students to use existing networking APIs to create and build computer network prototypes and real-life applications.

Prerequisite: CSCI-101.

CENG-SHU 400

### **Senior Capstone Design Project I**

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Prerequisite: Senior Standing.

CENG-SHU 401

### **Senior Capstone Design Project II**

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Prerequisite: CENG-400.

CCCF-SHU 101W1

## Perspectives on Humanities: Beyond Nature

The most recent developments in eco-criticism see a fatal flaw in our predominant conception of nature—as pure, beautiful, and grand—arguing that it alienates us from the very thing we wish to protect, and doing so, only ensures continued environmental degradation. The corrective is an expressly 21st century mode of ecological seeing and questioning that allows us to reconceive of ourselves and the world as beyond nature. But because the idea of nature remains so central to our understanding of ethics, law, human sexuality, psychology and personhood, and artistic representation, we must ask what implications the new ecology might have for our understanding of these features of culture. In this course we survey the positions of the new ecology, and then apply these methods of critique to examples of society, self, and art (throughout intellectual history up to the present). This application will both reveal how central nature is to our ideological understanding of culture and trouble our notion of what is natural.

CCCF-SHU 101W3

## Perspectives on Humanities: Tales of Gender and Power

This course will explore how human relationships are impacted by the expression, exercise, and experience of power. Special attention will be given (but not limited) to the primary family constellation, i.e. father-mother-son-daughter, and the lover-spouse alliance. Gender figures significantly in the relational dynamics among the above players—voluntarily, consciously or not—profoundly impacting the individual and groups. While our main objective is to gain a deeper, more complex understanding of the sometimes subtle yet potent play of power involved in the dynamics of gender relations, our examination of texts will also bring us close to other fundamental human issues, such as those relating to the “shadow” of the beast in human nature, the quest for knowledge (if not always wisdom), the uncertainties of identity and self, the creative need for love and community, the compulsive fear of attraction to death, the longing for transformation and transcendence, among others. The course will draw on a range of literary texts (epic, novel, drama, etc.), products of visual culture, and forms of the expressive/performance arts to explore how each has chosen to articulate, animate and resolve the above human relationships. To gain perspective, we will apply a variety of critical lenses in our close readings of texts, including psychological and philosophical theorists such as Freud, Irigaray, Foucault and others. This course will extend writing skills and concepts learned in GPS Writing Workshop, focusing on critical theory, research, and academic writing and expression in the humanities. The primary assignments will be analytical essays and a digital expressions project.

CCCF-SHU 101W11

## Perspectives on the Humanities: American Superheroes

This course organizes student writing and research around the study of American superheroes in comics, film, and television. Born in a low-prestige, disposable medium, superhero narratives now drive franchise production at some of the world's largest media conglomerates, which produce, distribute, and license content for audiences worldwide. The course aims to introduce students to three interpretative approaches. First, the formal study of texts: Scott McCloud's *Understanding Comics* offers a point of entry to the study of comics as a narrative art form, which we can then apply to Alan Moore and Dave Gibbons's *Watchmen*. Second, the historicist study of genre: students will learn about the industrial and political forces that converted the superhero from newsstand kid stuff to the subject of negotiations between Hollywood and Wall Street. Third, the political economy of commercial media: we will look at how Hollywood exploits superheroes as intellectual property, and who benefits from that exploitation. We will also look at how studios have navigated the political demands of their largest new market: the People's Republic of China.

CCCF-SHU 101W16

## Perspectives on the Humanities: Brutes, Monsters, Ghosts, and Other Troubling Creatures

This course will focus on representations of the “strange”—creatures we define as fundamentally different from ourselves. We will examine why we create boundaries between the human and the nonhuman and how writers, artists, and filmmakers throw in question these divisions. How do animals, objects, monsters, ghosts, and other phantasmagoric, hybrid creatures in the texts we will study both reflect and subvert existing power structures? We will examine how these “troubling creatures” speak to societal anxieties about gender, sexuality, class, race, and culture. We will also explore how these creatures, by speaking unexpectedly and out-of-turn, challenge power hierarchies. Course materials include fiction, comic books, films, and theoretical texts and will provide an introduction to literary analysis, film studies, gender studies, and philosophical debates about the division between the human and the nonhuman. “Monsters” we will study may include Honoré de Balzac's castrato in “Sarrasine,” the Yeti in Hergé's *Tintin in Tibet*, the poltergeist in Sarah Waters's *The Little Stranger*, and the shape-shifting animals in Angela Carter's fairy tales. Primary assignments for this course will be analytical essays, including one with a research component, and a digital expressions project.

CCCF-SHU 101W17

## Perspectives on the Humanities: Go West!

ame the country: armies, exiles, settlers and traders leave the crowded East to subdue the rugged lands and foreign cultures of the wide-open West, building a nation under an endless sky. While the United States' cowboys-and-indians conquest is famous worldwide, China's own centuries-long project of western expansion is no less central to its national history. In this class we'll explore how these twin visions of the “Wild West” have shaped each country's modern identity—and sheltered its painful blindspots—through history, literature, films, songs, and even video games. Through close-reading, in-class discussions, critical essays, and a cattle drive or two, we'll discover where, to paraphrase the old movie, the legends have become fact—and who's printing the legends in a post-frontier world.

CCCF-SHU 101W19

**Perspectives on the Humanities: The Truth is out There?**

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How do we re-present history? How do we narrate the past? In this Perspectives on the Humanities course, we consider how various actors—in particular, historians, journalists, artists, memoirists, documentarians, and filmmakers—create texts which contribute to public discourse about our past histories, our present societies, and our shared future. We will examine the ways these visual and written texts shape the contours of our collective memories, giving voice to the underrepresented, establishing (or challenging) authoritative narratives, recasting history to serve the agendas of the present and, at times, eclipsing other possible truths with their evocative power. The goal of our inquiry is not to separate “true” histories from “false” ones. But we will be cautious about these texts’ potential power, undertaking a comparative analysis of how they are constructed and how they work—and work on us. We will continue to build upon the skills of writing and inquiry introduced in Writing as Inquiry. The course will emphasize close reading of visual and narrative texts; the analysis of these texts in the context of relevant theoretical perspectives; and developing an inquiry through research essays. The primary assignments are research essays. In some of our case studies, we will encounter traumatic moments in world history; the texts which re-present these events may include painful content.

CCCF-SHU 101W20

**Perspectives on the Humanities: The Question of the Anthropocene**

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In 2016, a group of scientists formally declared that the planet Earth recently entered a new geological epoch: the Anthropocene. Though broad scientific consensus on the matter has yet to be reached, the very concept of the Anthropocene — the idea that we humans have fundamentally altered our planet at such a deep level that it registers in the permanent geological record — has not only caught on with scientists, but also philosophers, artists, writers, and filmmakers concerned about the future of life on our planet. In this class, students will explore a range of texts across several genres that take up the question of the Anthropocene while developing and practicing a range of skills central to critical analysis and academic writing.

CCCF-SHU 101W21

**Perspectives on the Humanities: Sino-Western Literary Exchanges**

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This course aims to explore the major literary linkages between China and the West in the modern period broadly understood. We will trace the historical contours of that great encounter, but the main goal is to study its cultural impact. We will examine the images and representations that one culture constructs about the other and probe into the issues and problems that arise in the process, such as intercultural misunderstanding, adaptation and appropriation, translation and interpretation, Orientalism and literary modernization. After a preliminary discussion of the theoretical and politico-ideological issues involved, we will proceed to study several culturally significant cases in the history of contacts between China and the West: Voltaire’s rewriting of traditional Chinese drama, Ezra Pound’s translations and his peculiar understanding of the Chinese language, literature, history, and culture, and Lu Xun’s accommodation and appropriation of Western literary themes and methods in his now classic short stories. These clusters of texts will provide insights and impart lessons that you can then apply in investigating problems of your own in contemporary cultural exchanges. This course will extend writing skills and concepts learned in Writing as Inquiry, focusing on critical theory, research, and academic writing in the humanities. The primary assignments will be reflective, analytical, and exploratory essays.

CCCF-SHU 101W22

**Perspectives on the Humanities: Networked Bodies: Exhibits, Organ Donations, and Alternate States of Ability**

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This course will organize student writing and research around the different ways our bodies are, or can be, constructed. We will consider how recent scholarship in disability studies have challenged popular conceptions of health and able-bodiedness, and examine the controversy surrounding international exhibits of deceased human bodies. We will also read fictional narratives of mechanically enhanced human bodies and cyborgs, and discuss the ethics of human organ donation. The boundaries of our bodies are much more porous than we may think, challenging the very concept of what constitutes the human. We will explore various humanities fields to guide this investigation. Much of the work we do will take the form of writing and research, extending writing skills and concepts learned in Writing as Inquiry. Our discussions, textual engagement, and scholarly research will enable us to consider how the ways in which bodies are connected are much more varied than we may have thought.

CCCF-SHU 101W24

**Perspectives on the Humanities: Medicine and Disease in the Humanities**

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This Perspectives on the Humanities course will explore the medical humanities, drawing upon literature, art, history, and anthropology to examine the culturally situated experiences of being ill and treating illness. While the importance of the medical humanities is most often stressed in the context of educating future doctors, the field is relevant to all of us: as Susan Sontag writes, “Everyone who is born holds dual citizenship, in the kingdom of the well and in the kingdom of the sick... sooner or later each of us is obliged, at least for a spell, to identify ourselves as citizens of that other place.” Readings will encompass memoirs by patients and physicians, historical and contemporary case studies, and works by medical anthropologists, including an ethnographic study of healthcare in Shanghai. In discussing these texts, we will consider how social and cultural factors shape perceptions of wellness and disease, with particular attention to the role of language. How objective is “scientific” communication and what experiences might it fail to capture? How does the language used to talk about a disease affect our perception of those who have it? Why do memoirs of illness have such strong appeal to many readers? Key authors include Atul Gawande, Oliver Sacks, Anne Fadiman, and Mei Zhan. This course will build upon skills and concepts introduced in Writing as Inquiry, such as evaluative reading and writing techniques, rhetorical organization, and strategies for effective research. Primary writing assignments will be analytical essays, at least one of which will involve a research

element.

CCCC-SHU 101W25

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**Perspectives on the Humanities: Everything You Know About Science Is Wrong**

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What is science? Who has the authority to determine what qualifies as science? Is scientific knowledge inherently political? This class will focus on the human dimensions of science. We will examine a number of case studies, ranging from nineteenth-century scientific racism in the US to “traditional Chinese medicine” in the early PRC to contemporary global climate change discourse. Drawing from work such as Kapil Raj’s *Relocating Modern Science*, the class will explore debates about the origins and circulation of scientific modernity. Did “modern science” originate in the West and spread “like a virus”? We will focus especially on questions of identity and representation in the making of scientific cultures. For instance, how have different ideas about gender shaped historical and present-day scientific cultures? Our readings will include primary sources, graphic novels, and science fiction. Building on skills and concepts from *Writing as Inquiry*, we will emphasize issues of argument, evidence, and structure in analytical writing. Paper assignments for the course will include analytical essays in several genres, including a research paper.

CCCC-SHU 101W26

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**Perspectives on the Humanities: Comparative Islamic Feminisms in World Literature**

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This course extends writing skills and concepts learned in *Writing as Inquiry*, focusing on a literary, cultural, historical and theoretical understanding of Muslim women’s experiences in a transnational and global network of societies and politics. We will examine Muslim women’s relationships with Islam—Islamic practice, habits, rituals, culture and customs—in postcolonial fiction. Within a broad regional and thematic foci we will emphasize the transnational nature of Muslim women’s engagements with Islam as protagonists in this fiction travel outside their homelands and reside in diasporic communities. We will analyze the negotiations of gender roles, gender constructions and gender consciousness in a variety of situations in foreign cultures with their personal faith; aspects of the foreign culture they are able to reconcile with and ones they find difficult to adapt to, among other questions that help us understand Muslim women’s spiritual experiences transnationally.

CCCC-SHU 110J

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**Introduction to Shanghai Cinema Legacy and China’s Film/Media Industry Today**

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Taking advantage of the location of NYU Shanghai, the course serves as a ground-level introduction to the legacy of Shanghai film culture and China’s film industry and screen culture today. Our approaches will be a combination of in class discussions and screenings related to early Shanghai cinema history (from cultural geography, infrastructure, silent classics to advent of sound etc.) and contemporary film/media culture formations. It also includes visits to and investigations of old and new exhibition venues, the Shanghai Film Museum, production companies or studios. It is likely that there will be one or two trips to shooting bases or relevant institutions outside of Shanghai. Students are expected to engage in collaborative or individual projects on case studies and give presentations on their findings.

CCCC-SHU 120

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**Chinese Art and the Modern World**

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A thematic introduction to Chinese art from the fifteenth century to the present, with special attention to its interaction with the rest of the world. Media include architecture, painting, porcelain, print, and installations. Topics include Chinese gardens in the West, Chinese watercolors for international trade, realism and socialist realism, and ink play and abstract expressionism.  
Prerequisite: None.

CCCC-SHU 121

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**History of Chinese Cinemas**

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This course, the first segment in a two-semester survey of Chinese-language film history, traces the origins of Chinese cinema and its transformation and diversification into a multi-faceted, polycentric trans-regional phenomenon in China, Hong Kong, and Taiwan up to the 1960s. We study a number of film cultures in Shanghai/China, Hong Kong and Taiwan, including the complex web of their historical kinship ties, and place them within the regional and global contexts of modernity, revolution, nation-building, and attendant socio-cultural transformations. To investigate these unique yet interrelated film cultures together raises the question of national cinema as a unitary object of study, while suggesting new avenues for analyzing the complex genealogy of a cluster of urban, regional, commercial or state-sponsored film industries within a larger comparative and transnational framework. Topics related to screenings and discussions include urban modernity, exhibition and spectatorship, transition to sound, stardom and propaganda, gender and ethnic identities, and genre formation and hybridization.  
Prerequisite: None.

CCCC-SHU 128

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**Contemporary Art & New Media**

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Over the past three decades, the contemporary art scene in China has expanded fast. The massive political, economic, and social changes the country has undergone since the end of the Cultural Revolution in 1976 have dramatically altered its cultural landscape. The course will survey the main development areas in Chinese contemporary art. Dedicated to responding to the new textures of China’s metropolitan culture, it will look at the relationship between visual arts, new media, architecture and performance in the mega-city of Shanghai, often regarded as the cradle of Chinese modernity. The class will be complemented by guest lectures and visits to public museums, galleries and artists’ studios in and around Shanghai. Students will have the opportunity to meet leading figures from the art world in China as well as the international art community, including artists, museum directors,

curators, art critics, and art dealers.  
Prerequisite: None.

CCCC-SHU 131

### **History of Chinese Cinemas II**

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The course offers a historical survey of Chinese-language cinema from the emergence of the new waves in Hong Kong, Taiwan and Mainland China in 1970s-1980s to the more recent formations around the turn of the new century. The distinctiveness of the three important Chinese cinemas and their increasing convergences after the Hong Kong handover in 1997, and under the impact of globalization, offer ideal laboratories for reconsidering the premises and usefulness of the concepts of national and transnational cinema. Along the same axis, we will also probe the problematic of cultural nationalism and neo-regionalism within the trans-Asian context, and the tension between the state's cultural policy and film industry, commercial cinema and art or independent cinema. Given the massive transformations in media technology and industrial organization in the last two decades, we will also consider the ramifications of new media for film and screen culture, including the burgeoning documentary movement, amateur and activist film/video practices. Screenings will include festival favorites, commercial blockbusters and DV works.

CCSC-SHU 135

**Topics in Modern Medicine for Non-Science Majors**

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This course, intended for Non-Science Majors, will consist of several guest speakers covering various topics related to modern medicine, such as: - The Cell, Proteins -DNA and RNA Structure -The Genetic code and Protein Synthesis, Antibiotics -Medical Diagnosis and Forensics - Serendipity in Molecular Medicine -Science and Intellectual Property - Pharmaceutical Patents - The Stress Reaction: a historical perspective -Smoking – The great evil.

Prerequisite: None.

CCSC-SHU 155

**Biology and Biotechnology: Essential, Commercial Aspects, Ethical Considerations**

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The course presents the essential elements of biology and biotechnology in order to enable non-scientists to have a basic understanding and an ability to read non-technical material. The techniques of genetic engineering and antibody production and the use of stem cells for medical pursuits will be covered in a manner amenable to all educated persons. Included in the biology part are both evolution and simple genetics with examples mostly from humans. Topics such as cancer and the ebola virus are currently of great interest. Students with a wide range of backgrounds should benefit.

Prerequisite: None.

CCSC-SHU 155

**Biology and Biotechnology**

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The course presents the essential elements of biology and biotechnology in order to enable non-scientists to have a basic understanding and an ability to read non-technical material. The techniques of genetic engineering and antibody production and the use of stem cells for medical pursuits will be covered in a manner amenable to all educated persons. Included in the biology part are both evolution and simple genetics with examples mostly from humans. Topics such as cancer and the ebola virus are currently of great interest. Students with a wide range of backgrounds should benefit.

Prerequisite: None.

# Core Curriculum

SCIENCE NON-MAJOR COURSES

## CCEX-SHU 113 Brain and Behavior

The relationship of the brain to behavior, beginning with the basic elements that make up the nervous system and how electrical and chemical signals in the brain work to effect behavior. Using this foundation, we examine how the brain learns and how it creates new behaviors, together with the brain mechanisms that are involved in sensory experience, movement, hunger and thirst, sexual behaviors, the experience of emotions, perception and cognition, memory and the brain's plasticity. Other key topics include whether certain behavioral disorders like schizophrenia and bipolar disorder can be accounted for by changes in the function of the brain, and how drugs can alter behavior and brain function.

Prerequisite: None.

## CCEX-SHU 116 Where the City Meets the Sea: Studies in Coastal Urban Environments

Over half of the human population lives within 100 km of a coast and coastlines contain more than two-thirds of the world's largest cities. As a result, the world's natural coastal environments have been substantially modified to suit human needs. This course uses the built and natural environments of coastal cities as laboratories to examine the environmental and ecological implications of urban development in coastal areas. Using data from multiple coastal cities, student teams use field-based studies and Geographic Information System (GIS) data to examine patterns and processes operating in coastal cities. This course uses the local terrestrial, marine, and built environments as a laboratory to address these issues, and team projects requiring field work form a core component of the learning experience. As part of the NYU Global Network University initiative this course is being offered simultaneously in several NYU sites globally and students are collaborating extensively with students from their sister campuses through the duration of this course.

Prerequisite: None.

## CCEX-SHU 117 The Legacy of Tradition I: The Growth of Science in the West

This course will consider the origins and development of science in the West. What ancient principles are preserved? Beginning with early Greek "proto scientific" philosophy we will explore emerging paradigms of science through a consideration and replication of great experiments that had significant impact by changing accepted world views. Before turning to the scientific and ontological revolution of the 16th and 17th centuries we will investigate the assumptions of pre-modern science. Philosophical, religious and scientific arguments will be studied and evaluated. Representative works of Bacon, Descartes, Galileo and Newton will be read to introduce the outlook of early modern science. The course will conclude with a survey of some contemporary scientific theories that evoke the legacy of tradition. One lecture and laboratory each week. In the lab students will, to the extent possible, replicate classic experiments from the history of science (list and descriptions of experiments in preparation).

Prerequisite: None.

## CCEX-SHU 118 The Legacy of Tradition II: Science and Technology in Pre-Modern China

This course will consider the origins and development of science and technology in China. What ancient principles are preserved? Beginning with such early theories as yin-yang and change (Yi Jing) we will explore emerging paradigms of science and technology. We will consider the practical outlook associated with the wide range of Chinese technologies and their relationship to the emergence of scientific thinking. The influence of Western scientific attitudes and accomplishments, especially as mediated through the Jesuit and Protestant missions to China, will be studied. A question guiding the course will be that of why the world's most advanced technological civilization in the pre-modern era failed to experience a scientific revolution. Were the premises of Chinese cosmology and philosophy resistant to the development of science? Were Chinese approaches to astronomy and mathematics, and the understanding of the phenomenon of life as represented in classics of Chinese traditional medicine, adverse to scientific methods? One lecture and laboratory each week. In the lab students will, to the extent possible, replicate classic experiments from the history of science and technology in China (list and descriptions of experiments in preparation).

Prerequisite: None.



The courses in this category emphasize the impact of science on society as well as cultural and historical reactions to scientific discovery. They focus on pressing world issues and current technology addressed by the natural sciences and mathematics.

CCST-SHU 125

## Interconnected: The History and Theory of Networks

Since the formation of trade routes connecting early civilizations, networks have been central to human exchange. Silk, jade, gold, and other goods, as well as the cultural elements of language, art, scientific discovery, philosophy and religion traveled the 6,500 km between southeast Asia and southern Europe on an elaborate system of trails, roads and waterways. This course will explore the development of several human made networks beginning with these early trade routes. Further consideration will be given to the construction of transcontinental railways, the development of electrical telegraph and telephone systems, in addition to the evolution of modern digital communication platforms such as the world wide web. The cultural conditions that encouraged the emergence of these networks, as well as the social outcomes resulting from their adoption, will both be explored through readings and critical dialog. Students will become familiar with: economic principles; network theories and topologies; the development and standardization of protocols; methods for encoding information; concerns about infrastructure, logistics, and security; as well as legislation governing information ownership, privacy, and censorship. Students will also be asked to consider the future of networks as it relates to themes such as crowd-sourcing, software-defined networks, and the Internet of Things.

Prerequisite: None.

CCST-SHU 126

## From Ancient Cosmology to Science

This course will consider the origins of science in ancient cosmologies. What principles are preserved? Considering the classical Chinese, Indian and Western traditions, the question of how and to what extent culture determines the paradigms of science will be investigated. We begin with formative texts from the Chinese, Indian and Western traditions, including the Rig Veda, the Upanishads (India), the I Jing, Dao De Jing, and the neo-Confucian synthesis (China) and the pre-Socratic Ionian physicists (Western), then turn to the development of modern science. Representative works of Bacon, Descartes, Galileo and Newton will be read in parallel with seminal texts describing the rise of modern science in China and India. The course will conclude with a survey of contemporary cosmological theories to see how some ancient ideas are retained in modern science.

Prerequisite: None.

CCST-SHU 127

## Serendipity in Science

In 1754 the antiquarian Horace Walpole coined the word serendipity based on the Persian fairy tale "The Three Princes of Serendip," whose heroes "were always making discoveries, by accidents and sagacity, of things they were not in quest of." In the ensuing centuries the word has had a colored history. Many of the major scientific and technological developments that shape our modern economy and culture had serendipitous components, including X-rays, penicillin, nylon, vulcanization of rubber, Post-Its, Velcro, saccharin, Nutrasweet, Teflon, insulin, the Pap test, super glue and a host of others. In this course we examine the history of serendipity, the synergism between the scientific background and experience of the individual scientist and researcher, and some of the many serendipitous breakthroughs that have changed and extended our lives and continually improved our standard of living.

Prerequisite: None.

CCST-SHU 128

## The Rise of Modern Science

This is a survey of the history of scientific disciplines and scientific methods from the "Scientific Revolution" of the seventeenth century to the present. We will discuss the ways of knowing such as reason, observation, experiment, and modeling. Our topics include science and religion, science and war, and the development of key scientific disciplines, institutions, and forms of communication. While focusing on physical and life sciences we will also ask about connections between a science of things and a science of human beings and human society. Students read original works by Newton, Lavoisier, Darwin, Freud, and Einstein, among others.

Prerequisite: None.

CCST-SHU 129

## Information Societies

Proclamations of the "personal computer revolution" and the advent of the "Information Age" are now history, if only three decades old. Recently developed digital media have also been associated with radical changes and even the "death" of traditional forms of communication. This class will evaluate the relationship between information technology and society, "the media and the message," from a broad historical perspective. Students will learn about the major material transformations in information support, from scroll to web, with a focus on Western civilization. A comparative attention to the Middle East and East Asia for the Early Modern period and the Soviet political project for twentieth century developments will allow for a more nuanced interpretation of the notion of "modernity" associated with the "from printing press to Internet" narrative arc. We will build toward an understanding of the interdependencies between technological and social systems in several steps. First, we will establish a longue duree perspective by surveying the scroll-to-codex transformation, and sketch contours of a Eurasian geographical plane by following paper's transition from China to the Middle East and Europe. Next, we will read foundational texts on the history of the printing press with a special focus on transformations in science and religion. We will then overview the famous nineteenth-century developments in information and communication technologies. We

will ask about their roles in shaping individuals' gender and professional identities as well as in the governance of transatlantic empires. The emergence of big corporations in parallel with the modern bureaucratic apparatus and new recording and data processing technologies is our fourth step. Toward the end of the class, we look at how the WWII calculating machine, the computer, acquired the functions of a "media machine" and took center stage in the debates about alternative political systems. We conclude with an exploration of contemporary visions for blurring space and time, ubiquitous computing, and promises of ultimate technological transcendence: trans-humanism. To preserve a uniting element in this wide ranging material, each of these steps will systematically explore particularly important locations where technological and social changes are negotiated, such as the library, the printing workshop, the publishing house, the office, and, finally, the classroom and the body itself. Prerequisite: None.

## CCSF-SHU 101L Global Perspectives on Society

In this course, we will explore a set of timeless questions about how society is, or should be, organized, based on close examinations of diverse thinkers and writers from different times and different cultures. The questions raised in this course will engage the moral, social, and political foundations of human relationships, the principles according to which people assemble into societies of different scales, and the bases for interaction among societies in a world of accelerating interdependence. By engaging texts that explore these questions from multiple perspectives, students reflect on several overarching issues, including how different societies have organized their economic and political institutions, how those societies fashion both shared identities and hierarchies of difference, how people experience themselves as "individuals" or as members of a collectivity, how they experience both time and space, and how they engage with others both locally and globally. Over the semester, students develop skills that are central to a liberal arts education, including reading carefully and thoughtfully, considering questions from more than one perspective, participating in respectful and serious intellectual explorations of difficult topics, developing oral presentation skills, and writing essays that make effective and appropriate use of the ideas of others as they present the students' own ideas to different audiences of readers. Each week, students will meet twice as an entire class for lectures and once in smaller recitation sections led by one of New York University Shanghai's Global Postdoctoral Fellows. Students receive 4 credits for the lecture and recitation.

Prerequisite for CCSF-101: none.

## CCSF-SHU 120 Modern China and the World Economy (formerly The Rise of Modern China)

China's development in recent decades has benefited greatly from its integration into the world market. The rise of modern China also has significant impact on the global economy and systems. This course focuses on the linkages and interactions between China's domestic development and the world economy, covering trade and finance. Presentation will stress key concepts (e.g., comparative advantage, gains from trade, internal and external balance, exchange rate), basic analytical frameworks, and their application to current events. It will also discuss new developments since the 2008 global financial crisis and the rethinking on policies, such as changing patterns of global supply chains, regional and global trade negotiations and liberalization, global financial imbalances and rebalancing, and reform of the international systems.

Prerequisite: None.

## CCSF-SHU 121 China's Development in a Comparative Perspective

This course focuses on China's political and economic development over the last century and a half with particular attention to the last 33 years, the so-called Reform Period. Our three primary objectives are to (1) understand the historical trajectory of China's development path; (2) consider in what ways and to what degree the growth experiences of East Asia's high-performing economies helped inform China's economic policymakers decisions and shed light on the prospects for the long-term success of reforms in China; (3) assess the state of China's contemporary political economy.

Prerequisite: None.

## CCSF-SHU 122 Traditional Chinese Wisdom and Its Transformation in Modern Times

This course will give a brief survey of Chinese philosophy from the pre-Qin period to the present in the perspective of world philosophy. To capture the quintessence of traditional Chinese wisdom, we will focus on three most influential schools of thought in ancient China, namely, Confucianism, Taoism and Buddhism. We will delineate the evolution of Confucianism from Confucius to Neo-Confucianism in Song and Ming dynasties, distinguish Taoism as philosophy from Taoism as religion, and examine the process of sinicization of Buddhism, taking Zen Buddhism as a paradigm case. In modern times, against the background of the exchange between the Chinese and the Western cultures, traditional Chinese wisdom, through the creative work of modern Chinese thinkers, obtained a new lease of life. Under the heading of the modernization of traditional Chinese wisdom, we will examine three most prominent schools in the 20th century Chinese philosophy, namely, contemporary Neo-Confucianism, Tsinghua school of realism (the Chinese analytic philosophy), and Chinese Marxism. Students are required to read the assigned texts before each class and actively participate in class discussions.

Prerequisite: None.

## CCSF-SHU 123 Contemporary Chinese Political Thought (formerly China's Political Thought in the Post-Maoist Era)

This course introduces students to perspectives on contemporary Chinese political and social thought as presented in academic publications, media reports, social commentary and postings on the Chinese Internet. It covers selected key topics in the disciplines of political, social, and cultural studies. It examines and compares Chinese and Western views on major developments and current issues. The course also introduces students to a variety of styles of writing and research methods as well as skills of cultural translation relevant to the study of contemporary China and Chinese thought.

Prerequisite: None.

## CCSF-SHU 124 Growing Shanghai, Shrinking Detroit

Less than a century ago, the Paris-of-the-East Shanghai and the Paris-of-the-West Detroit belonged to the most

modern, booming metropolises in the world, until both cities declined. Today, the global city of Shanghai has revived its old glory days, while Detroit officially filed for bankruptcy in July this year. In this course, we take Shanghai and Detroit as case studies to examine the challenges and consequences of our fast-urbanizing world. We will explore the historical and economic factors influencing the transformation of these cities, as well as look at how its citizens are experiencing these sweeping changes.

Prerequisite: None.

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CCSF-SHU 125

**Global Cultural Heritage**

In this course we explore the special place of "cultural heritage" in global life today. We will trace the journeys of cultural heritage items around the world — from the war trophies and curiosity cabinets of history, to our modern era's museums, and the global movements in antiquities, art, and other objects from the global South to collectors and museums in the global North, through looting, smuggling, and trade. Topics we'll investigate include "biographical objects" and the anthropology and psychology of collecting; the social life of objects of desire; the construction of value and knowledge in the representation and display of such objects; the beginnings of museums and their global spread; the concepts of national and global cultural heritage; as well as a series of ongoing international legal and moral battles over heritage, including cases related to China.

Prerequisite: None.

CCSF-SHU 130

**China Encounters the World**

This is a lecture course on China's encounters with the world in the late 19th and 20th centuries. The course analyzes the age-old Chinese "Central Kingdom" self-image and how the image was overturned during modern times in face of Western and Japanese challenges; it explores the Chinese "victim mentality" and its impact on China's modern international experience; it examines China's foreign policy issues in the context of its political, economic, social and cultural developments in broader terms; it also pays special attention to the role of "human agencies" in the shaping of historical processes.

CCSF-SHU 131

**The Cultural Revolution**

This is a reading and research seminar with an emphasis on China's "Great Proletarian Cultural Revolution" as the main subject of scholarly discussion and investigation. Why did the Cultural Revolution occur? How did it evolve? Why did it last so long (as compared with Mao Zedong's original plans)? How did it eventually end? What historical lessons one may learn from it? These are the questions to be explored in the course.

JOUR-SHU 9202

**Methods and Practice: Journalism**

It provides an introduction to the work of the reporter, with particular focus on covering China, and offers students a chance to learn and practice basic journalism skills, including news writing, descriptive & feature writing, and writing for TV etc. Feedback on assignments is given in individual meetings. Visiting speakers and field trips also offer insights into the role of the journalist and the challenges faced.

Prerequisites: None.

LWSOC-SHU 9251

**Topics in Law & Society: Law, Culture, & Politics in China**

This course will study China's governance in the context of America's own governance system. We will consider how to compare American and Chinese governance systems, and whether and how concepts can be translated between them—so that the countries, and their citizens can learn from, and cooperate with, one another. In the process, we hope to learn about China, but also to reflect—in the light of 9/11 and Iraq—more deeply on our own understanding of how American governance works—and how it is seen by the world.

SCA-SHU 9634

**Global Connections: Shanghai**

Any writing on Shanghai today seems to run out of superlatives to describe the city's dazzling transformation, spectacular architecture, and booming economy. But is it really the Global City it strives to be? In this course we will explore this question by looking into the urban development of the city from its status as a relatively unimportant trading town to the world metropolis of today. Besides regular seminar classes, the course involves field trips and guest lectures, and each student has to do their own semester-long research project.

## ECON-SHU 1

### Principles to Macroeconomics

Focuses on the economy as a whole (the “macroeconomy”). Begins with the meaning and measurement of important macroeconomic data (on unemployment, inflation, and production), then turns to the behavior of the overall economy. Topics include long-run economic growth and the standard of living; the causes and consequences of economic booms and recessions; the banking system and the Federal Reserve; the stock and bond markets; and the role of government policy.

Prerequisite: None.

## ECON-SHU 2

### Principles of Microeconomics

Focuses on individual economic decision-makers—households, business firms, and government agencies—and how they are linked together. The emphasis is on decision making by households and firms and how these decisions shape our economic life. Explores the different environments in which businesses sell their products, hire workers, and raise funds to expand their operations; the economic effects of trade between nations; and the effects of various government policies, such as minimum-wage legislation, rent controls, antitrust laws, and more.

Prerequisite: MATH-SHU 121 or 201.

## ECON-SHU 5

### Math for Econ 1: Optimization (formerly Math for Economists)

Elements of calculus and linear algebra are important to the study of economics. This class is designed to provide the appropriate tools to complement study of intermediate and advanced economic theory. Examples and motivation are drawn from important topics in economics. Topics covered include derivatives of functions of one and several variables; interpretations of the derivatives; convexity; constrained and unconstrained optimization; series, including geometric and Taylor series; matrix algebra; and (possibly) eigenvalues.

## ECON-SHU 10

### Intermediate Microeconomics

Rigorous examination of consumer choice, profit-maximizing behavior on the part of firms, and equilibrium in product markets. Topics include choice under uncertainty, strategic interactions between firms in noncompetitive environments, intertemporal decision making, and investment in public goods. Prerequisites: Principles of Microeconomics or Microeconomics for Business or for students who entered NYU-SH pre Fall 2015 Microeconomics and either Calculus or Mathematics for Economists.

## ECON-SHU 201

### Mathematics for Economists

This course explores applications of calculus to basic differential equations and functions of several variables, which arise in virtually all fields of applied mathematics including Economics. Topics addressed include first and second-order differential equations, surface and line integrals, divergence, gradient, curl, and the theorems of Gauss, Green, and Stokes.

Prerequisite: MATH-121.

## ECON-SHU 202

### Intermediate Microeconomics

Study of aggregate economic analysis with special attention paid to the determination of the level of income, employment, and inflation. Critically examines both the theories and the policies associated with them.

Prerequisites: ECON-150 & 201.

## ECON-SHU 203

### History of Economic Thought

Begins with a short introduction to mercantilism, then moves to the classical school, examining the contributions of its main figures (Smith, Malthus, Ricardo, Mill, and others). Ends with Marx's reaction to classical doctrines and the Marginalist Revolution of the late 19th century, which set the foundation of modern neoclassical economics. Conceptually, covers a variety of topics but focuses on two main entities: first, the normative aspects of the debate on the factors determining the value of commodities and the related issue of the principles that ought to govern the allocation of wealth; and second, various theories of economic growth and historical change, including predictions made on the future of capitalism.

Prerequisite: ECON-150.

## ECON-SHU 204

### Ethics and Economics

Study of the interface between ethical and economic theories. Specific topics covered include a brief overview of various ethical ideas, an analysis of the ethical presuppositions of modern economic theory (especially welfare economics), utilitarian ethics, the moral status of free exchange, the ethical implications of imperfect knowledge between bargaining parties, cost-benefit analysis and human rights, the economic content of the “general welfare,” and laissez-faire.

Prerequisite: ECON-150.

ECON-SHU 205

**Poverty and Income Distribution**

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Defines poverty and welfare. Analyzes who the poor are, why some people are rich and others poor, equality of opportunity, income and status, inequality, trends in the degree of inequality, government's role in income distribution, and international comparisons of inequality.

Prerequisite: ECON-150.

ECON-SHU 206

**Economics of Energy and the Environment**

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Economic analysis of major policy issues in energy and the environment, both domestic and international. Emphasis on market solutions to various problems and market limitations in the allocation of environmental resources.

Energy issues focus on OPEC and world oil markets, with attention to reducing oil import vulnerability; taxation and regulation of production and consumption; conservation of natural resources; and the transition to alternative energy sources. Environmental issues include policies to reduce pollution. Substantial attention is paid to global warming caused by consumption of fossil fuels.

Prerequisite: ECON-150.

ECON-SHU 207

**Urban Economics**

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The city as an economic organization. Urbanization trends, functional specialization, and the nature of growth within the city; organization of economic activity within the city and its outlying areas, the organization of the labor market, and problems of urban poverty; the urban public economy; housing and land-use problems; transportation problems; and special problems within the public sector.

Prerequisite: ECON-150.

ECON-SHU 208

**Money and Banking**

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Money supply; banking as an industry; banks as suppliers of money; the Federal Reserve System and monetary control; monetary theory; and contemporary monetary policy issues.

Prerequisite: ECON-150..

ECON-SHU 209

**Financial Crises**

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This course will allow students to understand the origin and evolution of financial crises. Various policy options that may prevent and mitigate financial crises and the restructuring of the global financial architecture to prevent or limit future crises will be examined. Although the course will focus mostly on the US and on the most recent financial crisis, it will also examine earlier financial crises in the US (such as the Great Depression) and past financial bubbles such as the 17th century Dutch Tulip mania and the 1997 Asian crisis.

Prerequisite: ECON-150.

ECON-SHU 212

**Contemporary Chinese Economic Issues**

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This course presents a practical and timely overview of the dynamic set of issues related to the major, ongoing changes in the Chinese economy and their effects both in China and abroad. Topics of discussion cover major issues on the macroeconomic, microeconomic, and political-economical front in China today: what China has done and where it is going, China's coming onto the world economic stage, market entry and access issues, dealing with important cultural issues, moving goods and capital around China, the "winners" and "losers" coming out of the reform, the ongoing process of China's transition from a primarily agricultural to a primarily industrial/service economy, protecting trade secrets, and other key issues. The readings are meant to be a background to build knowledge, and as this will be structured as a seminar, students are encouraged and graded on their active class participation and address issues of personal interest regarding the Chinese economy.

Prerequisite: ECON-202.

ECON-SHU 213

**Causal Inference in the Social Sciences**

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Questions that have answers in data are called empirically verifiable questions. That is, instead of debating based on logic, anecdotes, past experiences and personal beliefs, we can collect and carefully analyze large amounts of data on what people really did, thought, felt and obtained, to find out what really happened.

Some causal questions are worth billions of tax-payer dollars. For example, do class size reductions boost student achievement? Does universal childcare improve child development?

Some causal questions often cause heated social debates. For example, does increasing economic inequality hurt economic growth? Does proliferation of fast food restaurants cause obesity?

Some causal questions are of personal interest. For example, do tall people get paid more? How much does beauty help one's career? Do job market outcomes depend on individual names?

To design effective policy interventions, to guide meaningful debates on many important social issues, to discover the actual experiences of people of different height, beauty and ethnicity, evidence needs to be credible.

The tools introduced in this course will help you become a qualified detective when investigating causal questions related to political, social, economic and business phenomena with data. Students will learn how to interpret, design, and execute empirical research using Stata software.

Prerequisite: None.

ECON-SHU 225

**Advanced Economic Theory**

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Designed to introduce students to some of the main model-building techniques that have been developed by microeconomists. Intended for advanced undergraduates who have taken the necessary preparatory courses in economics and mathematics. Any of the following three basic topics may be covered. The first topic is the static theory of consumer behavior both in a certain world and in an uncertain world, including game theory. The second topic is the theory of general equilibrium. The third topic is the theory of dynamic optimization. In addition to the coverage of the economics, the advanced mathematical techniques that are needed to understand the material are reviewed.

Prerequisites: Intermediate Micro AND (Math for Econ 1 OR Multivariate Calculus).

ECON-SHU 238

**History of Modern Economic Growth: Exploring China From a Comparative Perspective**

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The course introduces the history of modern economic growth, with a special focus on China. It will be organized around two main themes: the Industrial Revolution and the Great Divergence. To understand why some nations became developed but the others failed, this course tries to analyze the important evidences and theories about how institution, geography, technology and culture shape the long-term economic development. The class will first focus on how did modern economic growth take place and spread worldwide; and then we move to apply these frameworks to China and explore the historical trajectory of the rise of China.

Prerequisite: None.

ECON-SHU 251

**Economics of Global Business**

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The objective of this course is to provide future decision-makers with a systematic understanding of critical aspects of economic development and the global business environment. We will examine the basic workings of the national economies (macroeconomics) and then explain the role of international trade and international finance. We show how the forces of globalization affect international business, down to the impact on the future careers of NYU students. The challenges presented by tepid economic growth in Europe, a soft landing in China, and the changing dynamics in the US, and the long run prospects for global economic growth and development are discussed. The course is divided into three parts: • Part I Understanding the modern macro economy. An understanding of the modern macro economy is essential in order to look at the relationships among countries. We start by defining the measures that characterize evolving economic well-being, from economic growth to inflation and income distribution. We examine how the economy grows in the long term and the role of productivity. We focus on the business cycle and how fiscal and monetary policies affect the economy in the short run and long run. Finally, we explore the role of banks and central banks and the importance of financial stability and the consequences of financial crises. • Part II Trade and trade policy. As international trade plays a central role in fostering globalization, we start with an examination of the economics of international trade in goods and services. We examine the role of comparative advantage as a determinant of the location of production and the direction of trade. We also examine the reasons for and effects of government policies that create impediments to international trade. We show the impact of tariff and subsidies on real life situations, such as the agricultural barriers in Europe and the effect of the MTA on Chinese exports. • Part III Exchange rates, international finance, crises and development. The final module addresses the role of money and finance in an international context. We start with the Balance of Payments and macroeconomics of international financial flows. We then turn to the role of exchange rates in international finance and explore the factors that determine exchange rates such as inflation, growth and interest rates. Government exchange rate policies and the choice between fixed and flexible exchange rates are examined. We discuss the impact of the non-convertibility of the yuan, we ask when a monetary union such as the Euro area makes sense and discuss whether the Euro will survive. In short, Economics of Global Business provides NYU students with an overview of global economic issues. It serves as the basis for the International Studies Project and is a guide for many elective courses in international business and economics.

Prerequisite: ECON-SHU 150.

ECON-SHU 255

**Economic Development**

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Studies the problem of economic underdevelopment, with special reference to the countries of Asia, Latin America, and Africa. The building blocks of economic theory are used to understand the historical experiences of these countries. Macroeconomic topics covered include economic growth, income distribution, and poverty, with particular emphasis on the concept of underdevelopment as a circular, self-reinforcing trap. Microeconomic topics include the study of particular markets that are especially relevant to developing countries: those for land, labor, and credit. Notions of market fragmentation, limited information, and incentive problems receive emphasis. Ends with international issues: trading patterns, capital flows, and global financial crises are studied from the viewpoint of developing countries.

Prerequisite: ECON-150.

ECON-SHU 260

**International Trade**

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This course will cover the basics of international trade theory and policy. It will introduce students to the main theoretical concepts in international trade, ranging from the Ricardian comparative advantage theory to the new trade theory under imperfect competition. Using the tools of microeconomic analysis, this course will explore the patterns of trade among countries, policies that impede or promote free trade as well as their welfare and distributional implications. Pre-requisite: Introductory Microeconomics

ECON-SHU 301

**Econometrics**

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Examines a number of important areas of econometrics. The topics covered include identification and estimation of simultaneous equations models; model specification and testing; estimation of discrete choice models; and the analysis of duration models. In addition to covering the relevant theoretical issues, the course includes the application of these methods to economic data.

Prerequisite: MATH 233 OR MATH 150 OR BUSF 101.

ECON-SHU 342

**Behavioral Economics**

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This course explores the effects of psychological factors on economic behavior. We will analyze the observations from the real world that cannot be well explained by classical economic models, and enrich the standard model by incorporating psychological phenomena, such as bounded rationality, loss aversion, time inconsistency and social preferences. We will present both theoretical models and empirical evidence from experiments or real world data. Applications include marketing, asset pricing, game theory, consumption and savings, and public policy.

Prerequisites: Intermediate Microeconomics and Econometrics.

ECON-SHU 353

**Public Economics**

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This course investigates the role of the public sector in the economy. The aim is to understand the reasons for government intervention, the response of economic agents to the governments and assessing the welfare effects of these influences. The course covers tax policy and inequality, social insurance programs, public goods, and the interaction between different levels of government. Special emphasis is on current policy issues such as education reform, health care reform, income tax reform, and the role of behavioral factors in designing effective policy. Students are expected to be familiar with one variable calculus and optimization techniques at the level required in Intermediate Microeconomics.

BPEP-SHU 9042

**The Political Economy of East Asia: China's Development in a Comparative Perspective**

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This course focuses on China's political and economic development over the last century and a half with particular attention to the last 33 years, the so-called Reform Period. Our three primary objectives are to (1) understand the historical trajectory of China's development path; (2) consider in what ways and to what degree the growth experiences of East Asia's high-performing economies helped inform China's economic policymakers decisions and shed light on the prospects for the long-term success of reforms in China; (3) assess the state of China's contemporary political economy.

Prerequisite: ECON-150 and SOCS-160.



## EENG-SHU 251 Circuits

This course covers Passive DC circuit elements, Kirchoff's laws, electric power calculations, analysis of DC circuits, Nodal and Loop analysis techniques, voltage and current division, Thevenin's and Norton's theorems, and source-free and forced responses of RL, RC and RLC circuits.

Prerequisite: MATH-121.

## EENG-SHU 301 Advanced Circuits

The course concentrates on differential and multistage amplifier, current mirrors, current sources, active loads; frequency response of MOSFET, JFET and BJT amplifiers: Bode plots; feedback amplifiers, gain-bandwidth rule and feedback effect on frequency response; Class A, B and AB output stages; op-amp analog integrated circuits; piecewise-linear transient response; determination of state of transistors; wave-shaping circuits; MOS and bipolar digital design: noise margin, fan-out, propagation delay; CMOS, TTL, ECL; and an alternate week laboratory. The course studies design and analysis of analog integrated circuits, frequency response of amplifiers, feedback amplifiers, TTL and CMOS digital integrated circuits.

Prerequisite: EENG-251.

## EENG-SHU 304 Electromagnetic Fields and Waves

Electromagnetic wave propagation in free space and in dielectrics, starting from a consideration of distributed inductance and capacitance on transmission lines. Electromagnetic plane waves are explored as a special case. The reflection and transmission of pulsed sources at discontinuities are discussed, while impedance transformation and matching are presented for harmonic time dependence. Snell's law and the reflection and transmission coefficients at dielectric interfaces are derived for obliquely propagation plane waves. Guiding of waves by dielectrics and by metal waveguides is demonstrated. Alternate-week laboratory. Objectives: Establish foundations of electromagnetic wave theory applicable to antennas, transmissions lines and materials; increase appreciation for properties of materials through physical experiments.

Prerequisite: CCSC-110 or BIOL-21.

## EENG-SHU 306 Instrumentation, Sensors and Actuators

The course focuses on electrical circuits and components, passive and active filtering for signal conditioning, dynamic measurement system response characteristics, analog signal processing, digital representation, data acquisition, sensors, actuators and actuator characteristics. Studies of measurement systems via computer simulation also are discussed. The laboratory experiments draw upon examples from all disciplines of engineering such as data acquisition, operational amplifiers, temperature measurement, and motion and force measurements.

Prerequisite: EENG-251.

## EENG-SHU 322 Electronics

This course focuses on circuit models and amplifier frequency response, op-amps, difference amplifier, voltage-to-current converter, slew rate, full-power bandwidth, common-mode rejection, frequency response of closed-loop amplifier, gain-bandwidth product rule, diodes, limiters, clamps and semiconductor physics. Other topics include Bipolar Junction Transistors; small-signal models, cut-off, saturation and active regions; common emitter, common base and emitter-follower amplifier configurations; Field-Effect Transistors (MOSFET and JFET); biasing; small-signal models; common-source and common gate amplifiers; and integrated circuit MOS amplifiers. The alternate-week laboratory experiments on OP-AMP applications, BJT biasing, large signal operation and FET characteristics. The course studies design and analysis of operational amplifiers; small-signal bipolar junction transistor and field-effect transistor amplifiers; diode circuits; differential pair amplifiers and semiconductor device-physics fundamentals.

Prerequisite: EENG-251.

## EENG-SHU 351 Analog and Digital Communication Theory

The course introduces the principles of the various analog communication fundamentals. Amplitude modulation and demodulation, angle modulation and demodulation. Noise performance of various receivers and information theory with source coding theorem are also dealt. The labs emphasize experiential learning of basic analog and digital communication theory concepts and applications, including experiments demonstrating analog and digital modulation techniques.

Prerequisite: EENG-303(2054).

## EENG-SHU 352 Control Systems

The course introduces the principles of dynamic system modeling, analysis, and feedback control design with extensive, hands-on computer simulation. Modeling and analysis of dynamic systems. Description of interconnected systems via transfer functions and block/signal-flow diagrams. System response characterization as transient and steady-state responses and error considerations. Stability of dynamical systems: Routh-Hurwitz criterion and Nyquist criterion. Graphical methods for dynamical system analysis and design: root locus and Bode plot. Computer-aided feedback control design for mechanical, aerospace, robotic, thermo-fluid, and vibratory systems.

Prerequisite: MATH-124.

EENG-SHU 354

#### **Electrical Energy and Power Systems**

Introduction to electric-energy sources, energy-storage devices, energy economics, environmental issues and electrical hazards. Principles of electric power systems transmission and distribution. Basic electromechanical conversion systems pulse and distribution transformers, induction rotating machines. Principles of electric energy conversion, static power supplies, static controllers and electric-power quality. Fundamentals of power management heat-sinks and cooling systems. Experiments with basic electrical machines.

Prerequisite: EENG-304.

EENG-SHU 355

#### **Digital Signal Processing**

The course introduces the principle concepts of discrete-time signals and systems, frequency analysis, sampling of continuous time signals, the z-transform, implementation of discrete time systems, the discrete Fourier transform, fast Fourier transform algorithms, filter design techniques. The labs cover experiential learning of digital signal processing concepts, and require students to use knowledge to create and build prototypes that demonstrate their understanding of the material covered in the lecture.

Prerequisite: EENG-303(2054).

EENG-SHU 356

#### **Communication Systems**

The course introduces the principles of the various analog communication fundamentals. Amplitude modulation and demodulation, angle modulation and demodulation. Noise performance of various receivers and information theory with source coding theorem are also dealt. The labs emphasize experiential learning of basic analog and digital communication theory concepts and applications, including experiments demonstrating analog and digital modulation techniques.

Prerequisite: EENG-303(2054).

EENG-SHU 375

#### **Robotic Systems**

This course presents an overview of Robotics covering a selection of topics including Controls, Localization, Motion Planning, Sensing, Kinematics, and Human-Robot Interaction. Practical lab and simulation exercises complement the lectures. The students will further specialize and consolidate their knowledge through semester-long hands-on projects that involve the design, implementation, and testing of robotic systems and applications.

Prerequisite: EENG-352.

*This course satisfies: NS Electives, EE Electives.*

EENG-SHU 375

#### **Robotic Systems**

*This course presents an overview of Robotics covering a selection of topics including Controls, Localization, Motion Planning, Sensing, Kinematics, and Human-Robot Interaction. Practical lab and simulation exercises complement the lectures. The students will further specialize and consolidate their knowledge through semester-long hands-on projects that involve the design, implementation, and testing of robotic systems and applications.*

Prerequisite: EENG-352.

EENG-SHU 400

#### **Senior Capstone Design Project I**

The goal of The Capstone Design Project is to provide students with a major design experience that leverages the knowledge and skills acquired through their undergraduate studies and co-curricular experiences. Its structure includes a process of design with measurable metrics, and incorporation of appropriate engineering standards and multiple realistic constraints. Emphasis is placed on clearly framing the design problem and following the design process to result in an optimized design solution. Students are encouraged to build prototypes of their designs and seek validation of their solutions through simulations and experiments, as appropriate. The Capstone Project aims to be collaborative and trans-disciplinary across several engineering streams. The emphasis is on students applying the design process to solve real-world problems in a 21st century, global context. The projects address engineering and technology topics that overlap with the sciences, social sciences, liberal arts or business. The Capstone provides an opportunity to integrate technical, human, aesthetic, business and ethical concerns with engineering design. Students practice critical skills in communication, team-building, and project management. There is a mid-semester review of the projects. Students complete their design, as well as build and test their prototypes, if applicable, in spring semester. The senior year culminates in a comprehensive project report and design review by a committee of faculty and other professionals. Senior Capstone Design Project I (ENGR-AD-400) and Senior Capstone Design Project II (ENGR-AD-401) both consist of two, seven-week modules. Module I, in the fall semester, has a lecture and a project component focusing on the design process, problem definition, project management and Ethics. Module II in the fall is focused on creating the design solution, which is implemented in Module III and tested and validated in Module IV.

Prerequisite: Senior Standing.

**Senior Capstone Design Project II**

The goal of The Capstone Design Project is to provide students with a major design experience that leverages the knowledge and skills acquired through their undergraduate studies and co-curricular experiences. Its structure includes a process of design with measurable metrics, and incorporation of appropriate engineering standards and multiple realistic constraints. Emphasis is placed on clearly framing the design problem and following the design process to result in an optimized design solution. Students are encouraged to build prototypes of their designs and seek validation of their solutions through simulations and experiments, as appropriate. The Capstone Project aims to be collaborative and trans-disciplinary across several engineering streams. The emphasis is on students applying the design process to solve real-world problems in a 21st century, global context. The projects address engineering and technology topics that overlap with the sciences, social sciences, liberal arts or business. The Capstone provides an opportunity to integrate technical, human, aesthetic, business and ethical concerns with engineering design. Students practice critical skills in communication, team-building, and project management. There is a mid-semester review of the projects. Students complete their design, as well as build and test their prototypes, if applicable, in spring semester. The senior year culminates in a comprehensive project report and design review by a committee of faculty and other professionals. Senior Capstone Design Project I (ENGR-AD-400) and Senior Capstone Design Project II (ENGR-AD-401) both consist of two, seven-week modules. Module I, in the fall semester, has a lecture and a project component focusing on the design process, problem definition, project management and Ethics. Module II in the fall is focused on creating the design solution, which is implemented in Module III and tested and validated in Module IV.

Prerequisite: EENG-400.

**Signals and Systems**

This course centers on linear system theory for analog and digital systems; linearity, causality and time invariance; impulse response, convolution and stability; the Laplace, z- transforms and applications to Linear Time Invariant (LTI) systems; frequency response, analog and digital filter design. Topics also include Fourier Series, Fourier Transforms and the sampling theorem. Weekly computer-laboratory projects use analysis- and design-computer packages. The course establishes foundations of linear systems theory needed in future courses; use of math packages to solve problems and simulate systems; and analog and digital filter design.

Prerequisite: MATH-124.

**Very Large Scale Integrated (VLSI) Circuit Design**

The course offers an overview of integrated circuit-design process: planning, design, fabrication and testing; device physics: PN junction, MOSFET and Spice models; inverter static and dynamic behavior and power dissipation; interconnects: cross talk, variation and transistor sizing; logic gates and combinational logic networks; sequential machines and sequential system design; subsystem design: adders, multipliers, static memory (SRAM), dynamic memory (DRAM). Topics include floor planning, clock distribution, power distribution and signal integrity; Input/Output buffers, packaging and testing; IC design methodology and CAD tools; implementations: full custom, application-specific integrated circuit (ASIC), field programmable gate arrays (FPGA). The course provides foundations of VLSI design and custom VLSI design methodology and state-of-the-art CAD tools. Prerequisite: EENG-322.

## ENGL-SHU 100A

**English for Academic Purposes: Storying Science: How the Narratives of Science Have Changed**

The objective of this seminar is for students to develop and practice academic speaking, listening, reading, and writing skills that will enable them to engage in discourse about how we view science as a discipline. We will explore the history of scientific rhetoric by investigating two co-dependent narrative arcs in the “story” of science: the way scientists write/talk/think in scientific discourse, and the way we write/talk/think about science and scientists. For centuries, science bore little resemblance to the empirical discipline that we recognize today, yet, while modern science has claimed the language and tools of objectivity, it is wrong to believe that it is free of argument, controversy, and bias. We will consider how science emerged from philosophy, advanced, and adjusted its methodology through ages of renaissance, enlightenment, industrialization, and global expansionism, and usurped religion as the ultimate authority on the “great” questions of life along the way. We will discuss the genres of science writing, science in media and digital science, and debate questions of ethics and popularization. In parallel, we will look at the ways in which science and scientists have been portrayed in popular culture, literature and the visual arts, and equally, how a desire to appear “scientific” has influenced everything from literary theory to advertising. As students engage with this content, they will practice high-level language, communication, and discourse skills required for the university setting, with an emphasis on speaking and listening. The EAP Seminar is designed to model a college classroom—students will engage with the content of the course individually and in small groups; in formal and informal writing and speaking assignments; and by participating in group projects—but there will be additional emphasis on refining and expanding English language skills.

## ENGL-SHU 100B

**English for Academic Purposes: Where do we go from here?**

This freshman EAP course is designed to help develop your academic speaking, listening, reading and writing skills in English. At the same time, as a content-based EAP course, it will aim to help you better understand, discuss, and apply some key concepts from social science and philosophy. Specifically, this course will examine a distinction many have made in the Twentieth and Twenty-first Centuries (and earlier) between two ways of knowing and living that human beings exhibit. These two ways are summed up in the course's title as 1) Massification (a.k.a. objectification, alienation, dehumanization) and 2) Humanization (a.k.a. authenticity, critical consciousness, liberation). To examine this theme, the course will be further divided into four parts: (1) To begin, we will explore and discuss theories regarding how human beings psychologically & socially construct knowledge/reality. (2) We will then go on to apply these concepts in order to examine a critical feature of our modern world, namely how it is shaped by consumerism/materialism. (3) This will, in turn, lead us to examine the social, environmental, psychological effects consumerism is having on our world and ourselves. (4) This will finally lead us to examine some fundamental, philosophical questions human beings have asked for ages, such as: What is happiness and how can it be attained? How can one live a meaningful life at this time? How can we improve our society (locally, national and globally)? As you engage with this content, you will practice high-level language, communication, and discourse skills required for the university setting, with an emphasis on speaking and listening. The EAP Seminar is designed to model a college classroom—you will engage with the content of the course individually and in small groups; in formal and informal writing and speaking assignments; and by participating in group projects—but there will be additional emphasis on refining and expanding English language skills.

## ENGL-SHU 100C

**English for Academic Purposes: Cities and Urban Consciousness**

Cities and Urban Consciousness aims to develop students' speaking, listening, reading, and writing skills while at the same time engendering an intuitive sense of the city. Instead of lectures delivering factual knowledge, the course relies on the mutually enriching interaction between knowing, understanding, thinking and feeling to achieve as comprehensive a sense of urban reality as possible. While all four language modalities will be practiced, there is a special focus on speaking and listening. The emphasis is on sensibility and communicating sensibility, encouraging the much-neglected ‘unquantifiables’ as a legitimate area of enquiry, as capable of contributing to research as any other. The course draws on and replicates the lived urban experience in the student's learning, straddling the Humanities, Social Science and STEM. As students engage with this content, they will practice high-level language, communication, and discourse skills required for the university setting. The EAP Seminar is designed to model a college classroom—students will engage with the content of the course individually and in small groups; in formal and informal writing and speaking assignments; and by participating in group projects—but there will be additional emphasis on refining and expanding English language skills.

## ENGL-SHU 100D

**English for Academic Purposes: The Corporation and the Individual**

In this English for Academic Purposes seminar, we will develop speaking, listening, writing, and reading skills while exploring the relationship between the corporation, or business organization, and the individual. The root of the word “corporation” is “corps” or “body,” and this body has become a complex being in the 21st century. How is it like and not like an individual? What is its obligation to its human parts and what obligation do those human parts have to the whole? In a time of globalization, those human parts are in motion and the borders of the body itself have become more fluid, less narrowly defined. What new models of this “body” are emerging? How is it positioned (or not) to meet the demands of the developing century? Are there parallels to this “body” in nature itself? Who are traditional “insiders” and “outsiders” and how might such roles be reimagined? As we interrogate the role of innovation and creative problem-solving in a business setting, we will apply such principles to our own work in the classroom and evaluate their impact. What lessons can be learned or new models explored? As students engage with this content, they will practice high-level language, communication, and discourse skills required for the university setting, with an emphasis on speaking and listening. The EAP Seminar is designed to model a college classroom—students will engage with the content of the course individually and in small groups; in formal and informal writing and speaking assignments; and by participating in group projects—but there will be additional

emphasis on refining and expanding English language skills.

ENGL-SHU 100E

#### **English for Academic Purposes: Consumerism, Alienation, and Human Happiness**

This freshman English for Academic Purposes (EAP) course is designed to help you develop the speaking, listening, reading, writing and critical thinking skills you need to study successfully in an English-speaking university. Since it is a thematic, content-based EAP course, it also aims to assist you to develop and apply your understandings of certain concepts from social science and the humanities that are important to a well-rounded liberal arts education. Specifically, this course will explore what some regard as an unprecedented, global crisis humanity seems to be facing, a crisis arising from the influences of consumerism and materialism on modern society and culture. We will further examine what it may mean to live a meaningful life at this time in history, and what some keys to creating a more sustainable and happier future might be. As students engage with this content, they will practice high-level language, communication and discourse skills required for the university setting, with an emphasis on speaking and listening. The EAP Seminar is designed to model a college classroom—students will engage with the content of course individually and in small groups; in formal and informal writing and speaking assignments; and by participating in group projects—but there will be additional emphasis on refining and expanding English language skills.

ENGL-SHU 100F

#### **English for Academic Purposes: Business and Social Responsibility**

In this seminar, we will develop speaking, listening, reading, and writing skills while investigating business organizations. In particular, we will look at businesses and their responsibilities to the cities and communities in which they operate. Increasingly, businesses are viewed as being accountable to their communities—to the environment, to their workforces and to the cities and towns that house their headquarters and factories. Some now believe that social problems, in both developing and developed countries, are on a scale that governments and non-profit organizations cannot address alone. They argue that only businesses have the resources to address these problems and that there needs to be an “evolution” in capitalism...an evolution in business goals and practices that will help create sustainable and livable cities, i.e., cities in which people desire to live as well as work. We will begin the course by looking at different business models and new concepts in capitalism. We will then look specifically at Shanghai and the role that businesses and other types of organizations play in addressing the many social problems that a city such as Shanghai faces. There will be an emphasis on both creative and critical thinking as we ask questions, analyze problems and come up with our own solutions. As students engage with this content, they will practice high-level language, communication and discourse skills required for the university setting, with an emphasis on speaking and listening. The EAP Seminar is designed to model a college classroom—students will engage with the content of course individually and in small groups; in formal and informal writing and speaking assignments; and by participating in group projects—but there will be additional emphasis on refining and expanding English language skills.

ENGL-SHU 100G

#### **English for Academic Purposes: Negotiating Self and Other**

This seminar is meant to develop English for academic purposes literacy in all four language modalities (speaking, listening, reading, and writing) by exploring an interdisciplinary theme that, while grounded in the social sciences, also cuts across the humanities, especially philosophy. The “self” is a natural place to begin. The problem is that this is all-too-often simply taken for granted. What are selves? Are we what we say we are? But what about the way we appear to others? An important constraint on what we may become is our membership in various communities. Students will be presented with a variety of texts (written and visual, including video, audio clips, and print advertising) in order to assist them in forming their opinions about the process of negotiation between self and other in society. Moreover, the concept of ‘negotiation’ itself will be highlighted and explored in this context. Some of the subthemes that will be discussed will be self-concept and identity construction, culture and sub-culture, treatment of minority groups, gender identity development, and material and consumer identities. As students engage with this content, they will practice high-level language, communication, and discourse skills required for the university setting, with an emphasis on speaking and listening. The EAP Seminar is designed to model a college classroom—students will engage with the content of the course individually and in small groups; in formal and informal writing and speaking assignments; and by participating in group projects—but there will be additional emphasis on refining and expanding English language skills.

ENGL-SHU 100Q

#### **English for Academic Purposes: Digital Identities in Modern Public Spheres**

The freshman English for Academic Purposes (EAP) course is designed to help you develop the high-level language, communication, and critical thinking skills you need to be successful in an English-speaking university. While the primary emphasis is on speaking and listening, you will also practice reading and writing. You will engage with content individually and in groups, complete a variety of communicative tasks, reflective writing assignments and an experiential learning project outside the walls of the university. The courses are designed to help you acquire skills that can be also be transferred to your future professional and personal lives, and to help you cultivate an interest in issues that cross disciplines, an important part of a well-rounded, liberal arts education. The pervasiveness of our ever-changing media and communication landscapes offer both innovation and complication for the content and interpretation of our messages. Using the framework of the “public sphere,” virtual realms of social life where society’s problems are open for discussion, we will consider how various digital platforms (news feeds, blogs, chat groups, social media platforms, etc.) control our worldview and influence our evolving selves. Additionally, we will examine how distinctive identities (gender, social class, race, nationality, sexuality) are formed, developed, and expressed via networks (online and in person). Across the semester, you will conduct an investigation of how the concepts of identity (personal) and community (collective) are integrated into the digitally mediated culture.

After being introduced to rhetorical theories and concepts, you will be asked to apply them to the analysis and exploration of a variety of online platforms, technologies, and communities. Overall, through this course, learners will gain a better understanding of the power of mass digital communication and how to use it while navigating through various networks.

ENGL-SHU 100R

#### **English for Academic Purposes: (Un)Sustainability**

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The freshman English for Academic Purposes (EAP) course is designed to help you develop the high-level language, communication, and critical thinking skills you need to be successful in an English-speaking university. While the primary emphasis is on speaking and listening, you will also practice reading and writing. You will engage with content individually and in groups, complete a variety of communicative tasks, reflective writing assignments and an experiential learning project outside the walls of the university. The courses are designed to help you acquire skills that can be also be transferred to your future professional and personal lives, and to help you cultivate an interest in issues that cross disciplines, an important part of a well-rounded, liberal arts education. We will inquire into the multidimensional aspects of sustainable development, focusing on the tools, metrics and practical pathways the world is currently exploring. In addition, we will investigate various success indicators for sustainable development. (Un)Sustainability views sustainable development solutions in the context of a range of subfields in addition to sustainability itself, including climate change and political action, and will afford learners the opportunity to carry out a team-based project in relation to the issues posed by this rich interdisciplinary terrain. This course encourages you to consider your role as a responsible 21st century global citizen and promotes analytical and reflective thinking on this role as it relates to global sustainability, including the United Nations' Sustainable Development Goals (SDGs) set in 2015. The SDGs are a collection of 17 global goals covering social and economic development issues including poverty, hunger, health, education, climate change, gender, equality, water, sanitation, energy, urbanization, environment and social justice.

ENGL-SHU 100S1

#### **English for Academic Purposes: Storying Science: How the narratives of science have changed - Part I**

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Part I of two sections: The objective of this seminar is for students to develop and practice academic speaking, listening, reading, and writing skills that will enable them to engage in discourse about how we view science as a discipline. We will explore the history of scientific rhetoric by investigating two co-dependent narrative arcs in the "story" of science: the way scientists write/talk/think in scientific discourse, and the way we write/talk/think about science and scientists. For centuries, science bore little resemblance to the empirical discipline that we recognize today, yet, while modern science has claimed the language and tools of objectivity, it is wrong to believe that it is free of argument, controversy, and bias. We will consider how science emerged from philosophy, advanced, and adjusted its methodology through ages of renaissance, enlightenment, industrialization, and global expansionism, and usurped religion as the ultimate authority on the "great" questions of life along the way. We will discuss the genres of science writing, science in media and digital science, and debate questions of ethics and popularization. In parallel, we will look at the ways in which science and scientists have been portrayed in popular culture, literature and the visual arts, and equally, how a desire to appear "scientific" has influenced everything from literary theory to advertising. As students engage with this content, they will practice high-level language, communication, and discourse skills required for the university setting, with an emphasis on speaking and listening. The EAP Seminar is designed to model a college classroom—students will engage with the content of the course individually and in small groups; in formal and informal writing and speaking assignments; and by participating in group projects—but there will be additional emphasis on refining and expanding English language skills.

ENGL-SHU 100S2

#### **English for Academic Purposes: Storying Science: How the narratives of science have changed - Part I**

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Part I of two sections: Cities and Urban Consciousness aims to develop students' speaking, listening, reading, and writing skills while at the same time engendering an intuitive sense of the city. Instead of lectures delivering factual knowledge, the course relies on the mutually enriching interaction between knowing, understanding, thinking and feeling to achieve as comprehensive a sense of urban reality as possible. While all four language modalities will be practiced, there is a special focus on speaking and listening. The emphasis is on sensibility and communicating sensibility, encouraging the much-neglected 'unquantifiables' as a legitimate area of enquiry, as capable of contributing to research as any other. The course draws on and replicates the lived urban experience in the student's learning, straddling the Humanities, Social Science and STEM. As students engage with this content, they will practice high-level language, communication, and discourse skills required for the university setting. The EAP Seminar is designed to model a college classroom—students will engage with the content of the course individually and in small groups; in formal and informal writing and speaking assignments; and by participating in group projects—but there will be additional emphasis on refining and expanding English language skills.

ENGL-SHU 100S3 (formerly 101S1)

#### **English for Academic Purposes: Storying Science: How the Narratives of Science Have Changed**

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The objective of this seminar is for students to develop and practice academic speaking, listening, reading, and writing skills that will enable them to engage in discourse about how we view science as a discipline. We will explore the history of scientific rhetoric by investigating two co-dependent narrative arcs in the "story" of science: the way scientists write/talk/think in scientific discourse, and the way we write/talk/think about science and scientists. For centuries, science bore little resemblance to the empirical discipline that we recognize today, yet, while modern science has claimed the language and tools of objectivity, it is wrong to believe that it is free of argument, controversy, and bias. We will consider how science emerged from philosophy, advanced, and adjusted its methodology through ages of renaissance, enlightenment, industrialization, and global expansionism, and usurped religion as the ultimate authority on the "great" questions of life along the way. We will discuss the genres of science writing, science in media and digital science, and debate questions of ethics and popularization. In parallel, we will

look at the ways in which science and scientists have been portrayed in popular culture, literature and the visual arts, and equally, how a desire to appear “scientific” has influenced everything from literary theory to advertising. As students engage with this content, they will practice high-level language, communication, and discourse skills required for the university setting, with an emphasis on speaking and listening. The EAP Seminar is designed to model a college classroom—students will engage with the content of the course individually and in small groups; in formal and informal writing and speaking assignments; and by participating in group projects—but there will be additional emphasis on refining and expanding English language skills.

ENGL-SHU 100T

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**English for Academic Purposes: The Greater Good**

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The freshman English for Academic Purposes (EAP) course is designed to help you develop the high-level language, communication, and critical thinking skills you need to be successful in an English-speaking university. While the primary emphasis is on speaking and listening, you will also practice reading and writing. You will engage with content individually and in groups, complete a variety of communicative tasks, reflective writing assignments and an experiential learning project outside the walls of the university. The courses are designed to help you acquire skills that can also be transferred to your future professional and personal lives, and to help you cultivate an interest in issues that cross disciplines, an important part of a well-rounded, liberal arts education. Specifically, this course will explore contemporary issues in global public health through a central theme of the greater good; a concern for the collective, in issues such as climate change, food security, and population control. It is easy for such challenges to remain abstract, and to imagine teams of experts in far-away places working to address them, and this distance tends to blur the role of the individual. We will examine the tension between individual choice and collective good, between local action and global impact, which runs through a number of global public health topics and manifests across the world in different ways. Additionally, the course will ask you to view these topics with a critical eye through an interdisciplinary lens, applying insights from environmental science, public policy, business, and health. Overall, learners will consider questions such as who stands to benefit from global health policies and initiatives, what is at stake in specific global health issues, and how such issues are being explored globally and locally, just beyond the walls of the classroom in Shanghai.

ENGL-SHU 100U

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**English for Academic Purposes: Money Stuff**

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The freshman English for Academic Purposes (EAP) course is designed to help you develop the high-level language, communication, and critical thinking skills you need to be successful in an English-speaking university. While the primary emphasis is on speaking and listening, you will also practice reading and writing. You will engage with content individually and in groups, complete a variety of communicative tasks, reflective writing assignments and an experiential learning project outside the walls of the university. The courses are designed to help you acquire skills that can also be transferred to your future professional and personal lives, and to help you cultivate an interest in issues that cross disciplines, an important part of a well-rounded, liberal arts education. Specifically, this course will investigate the world of money and the ideas and practices of the global financial system. Using a daily financial column, as well as other videos, talks, lectures, podcasts, and readings, we will examine what money is and explore current issues in the financial world. Specifically, this course will investigate the historical uses and roles of money in a macro sense; the roles technology has played and will play in the financial world; and what the roles and purposes of the financial sector are, and how we evaluate and regulate what it does and how it affects our world. Concurrent with our study of the hows and whys of finance, we will also critically address moral and ethical issues around global finance, and how it affects the people and societies of the world. Overall, through this course, learners will broaden their understanding of finance and develop the tools and skills to critically think about and evaluate money stuff in the world.

ENGL-SHU 101A

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**English for Academic Purposes: Storying Science – Advanced**

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The objective of this seminar is for students to develop and practice academic speaking, listening, reading, and writing skills that will enable them to engage in discourse about how we view science as a discipline. We will explore the history of scientific rhetoric by investigating two co-dependent narrative arcs in the “story” of science: the way scientists write/talk/think in scientific discourse, and the way we write/talk/think about science and scientists. For centuries, science bore little resemblance to the empirical discipline that we recognize today, yet, while modern science has claimed the language and tools of objectivity, it is wrong to believe that it is free of argument, controversy, and bias. We will consider how science emerged from philosophy, advanced, and adjusted its methodology through ages of renaissance, enlightenment, industrialization, and global expansionism, and usurped religion as the ultimate authority on the “great” questions of life along the way. We will discuss the genres of science writing, science in media and digital science, and debate questions of ethics and popularization. In parallel, we will look at the ways in which science and scientists have been portrayed in popular culture, literature and the visual arts, and equally, how a desire to appear “scientific” has influenced everything from literary theory to advertising. As students engage with this content, they will practice high-level language, communication, and discourse skills required for the university setting, with an emphasis on speaking and listening. The EAP Seminar is designed to model a college classroom—students will engage with the content of the course individually and in small groups; in formal and informal writing and speaking assignments; and by participating in group projects—but there will be additional emphasis on refining and expanding English language skills.

ENGL-SHU 101B

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**English for Academic Purposes: Where do we go from here? Massification vs. Humanization – Advanced**

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The objective of this seminar is for students to develop and practice academic speaking, listening, reading, and writing skills that will enable them to engage in discourse about how we view science as a discipline. We will explore the history of scientific rhetoric by investigating two co-dependent narrative arcs in the “story” of

science: the way scientists write/talk/think in scientific discourse, and the way we write/talk/think about science and scientists. For centuries, science bore little resemblance to the empirical discipline that we recognize today, yet, while modern science has claimed the language and tools of objectivity, it is wrong to believe that it is free of argument, controversy, and bias. We will consider how science emerged from philosophy, advanced, and adjusted its methodology through ages of renaissance, enlightenment, industrialization, and global expansionism, and usurped religion as the ultimate authority on the “great” questions of life along the way. We will discuss the genres of science writing, science in media and digital science, and debate questions of ethics and popularization. In parallel, we will look at the ways in which science and scientists have been portrayed in popular culture, literature and the visual arts, and equally, how a desire to appear “scientific” has influenced everything from literary theory to advertising. As students engage with this content, they will practice high-level language, communication, and discourse skills required for the university setting, with an emphasis on speaking and listening. The EAP Seminar is designed to model a college classroom—students will engage with the content of the course individually and in small groups; in formal and informal writing and speaking assignments; and by participating in group projects—but there will be additional emphasis on refining and expanding English language skills.

ENGL-SHU 101C

#### **English for Academic Purposes: Negotiating Self and Other – Advanced**

This seminar is meant to develop English for academic purposes literacy in all four language modalities (speaking, listening, reading, and writing) by exploring an interdisciplinary theme that, while grounded in the social sciences, also cuts across the humanities, especially philosophy. The “self” is a natural place to begin. The problem is that this is all-too-often simply taken for granted. What are selves? Are we what we say we are? But what about the way we appear to others? An important constraint on what we may become is our membership in various communities. Students will be presented with a variety of texts (written and visual, including video, audio clips, and print advertising) in order to assist them in forming their opinions about the process of negotiation between self and other in society. Moreover, the concept of ‘negotiation’ itself will be highlighted and explored in this context. Some of the subthemes that will be discussed will be self-concept and identity construction, culture and sub-culture, treatment of minority groups, gender identity development, and material and consumer identities. As students engage with this content, they will practice high-level language, communication, and discourse skills required for the university setting, with an emphasis on speaking and listening. The EAP Seminar is designed to model a college classroom—students will engage with the content of the course individually and in small groups; in formal and informal writing and speaking assignments; and by participating in group projects—but there will be additional emphasis on refining and expanding English language skills.

ENGL-SHU 101D

#### **The Corporation and the Individual**

In this English for Academic Purposes seminar, we will develop speaking, listening, writing, and reading skills while exploring the relationship between the corporation, or business organization, and the individual. As this is a 101-level EAP seminar, students will be expected to show greater control of academic speaking and listening and greater autonomy over the learning process than they did in the 100-level seminar. Students will be expected to facilitate seminar discussions and deliver mid-length presentations. The root of the word “corporation” is “corps” or “body,” and this body has become a complex being in the 21st century. How is it like and not like an individual? What is its obligation to its human parts and what obligation do those human parts have to the whole? In a time of globalization, those human parts are in motion and the borders of the body itself have become more fluid, less narrowly defined. What new models of this “body” are emerging? How is it positioned (or not) to meet the demands of the developing century? Are there parallels to this “body” in nature itself? Who are traditional “insiders” and “outsiders” and how might such roles be reimagined? As we interrogate the role of innovation and creative problem-solving in a business setting, we will apply such principles to our own work in the classroom and evaluate their impact. What lessons can be learned or new models explored? As students engage with this content, they will practice high-level language, communication, and discourse skills required for the university setting, with an emphasis on speaking and listening. The EAP Seminar is designed to model a college classroom—students will engage with the content of the course individually and in small groups; in formal and informal writing and speaking assignments; and by participating in group projects—but there will be additional emphasis on refining and expanding English language skills.

ENGL-SHU 101E

#### **Cities and Urban Consciousness**

Cities and Urban Consciousness aims to develop students’ speaking, listening, reading, and writing skills while at the same time engendering an intuitive sense of the city. Instead of lectures delivering factual knowledge, the course relies on the mutually enriching interaction between knowing, understanding, thinking and feeling to achieve as comprehensive a sense of urban reality as possible. As this is a 101-level EAP seminar, students will be expected to show greater control of academic speaking and listening and greater autonomy over the learning process than they did in the 100-level seminar. Students will be expected to facilitate seminar discussions and deliver mid-length presentations. The emphasis is on sensibility and communicating sensibility, encouraging the much-neglected ‘unquantifiables’ as a legitimate area of enquiry, as capable of contributing to research as any other. The course draws on and replicates the lived urban experience in the student’s learning, straddling the Humanities, Social Science and STEM. As students engage with this content, they will practice high-level language, communication, and discourse skills required for the university setting. The EAP Seminar is designed to model a college classroom—students will engage with the content of the course individually and in small groups; in formal and informal writing and speaking assignments; and by participating in group projects—but there will be additional emphasis on refining and expanding English language skills.



**Intercultural Communication**

Part of the mission of NYU-Shanghai is to enable students to 'immerse themselves in English, the language of international communication' as well as 'master the skills of cross-cultural effectiveness.' These are perhaps the most important goals that students can set for themselves in today's global world where people from disparate cultures must come together to solve the big problems of the age. As this is a 101-level EAP seminar, students will be expected to show greater control of academic speaking and listening and greater autonomy over the learning process than they did in the 100-level seminar. Students will be expected to facilitate seminar discussions and deliver mid-length presentations. In order to become effective in communicating across cultural boundaries, one must first 'know thyself' and the way that cultural self is perceived by others. Just as a fish in water is not aware of the water, it is difficult to see the always shifting cultural contexts in which global citizens "swim." At the core of the course is the idea that language and culture are inseparable. Linguistic competence itself is not enough for successful communication in a diverse multicultural world. Students will be engaged to conceptualize and practice intercultural communication and etiquette that is both verbal and non-verbal, question assumptions they have about "normal" communication, and develop the ability to perceive and communicate from multiple intercultural points-of-view. They will also be prompted to develop their own set of intercultural values in light of what they have learned. As students engage with this content, they will practice high-level language, communication, and discourse skills required for the university setting, with an emphasis on speaking and listening. The EAP Seminar is designed to model a college classroom—students will engage with the content of the course individually and in small groups; in formal and informal writing and speaking assignments; and by participating in group projects—but there will be additional emphasis on refining and expanding English language skills.

**Cities and Urban Consciousness**

Cities and Urban Consciousness aims to develop students' speaking, listening, reading, and writing skills while at the same time engendering an intuitive sense of the city. Instead of lectures delivering factual knowledge, the course relies on the mutually enriching interaction between knowing, understanding, thinking and feeling to achieve as comprehensive a sense of urban reality as possible. As this is a 101-level EAP seminar, students will be expected to show greater control of academic speaking and listening and greater autonomy over the learning process than they did in the 100-level seminar. Students will be expected to facilitate seminar discussions and deliver mid-length presentations. The emphasis is on sensibility and communicating sensibility, encouraging the much-neglected 'unquantifiables' as a legitimate area of enquiry, as capable of contributing to research as any other. The course draws on and replicates the lived urban experience in the student's learning, straddling the Humanities, Social Science and STEM. As students engage with this content, they will practice high-level language, communication, and discourse skills required for the university setting. The EAP Seminar is designed to model a college classroom—students will engage with the content of the course individually and in small groups; in formal and informal writing and speaking assignments; and by participating in group projects—but there will be additional emphasis on refining and expanding English language skills.

**English Language Seminar: Intercultural Communication**

This short course will provide students with the opportunity to practice their academic English by learning about intercultural communication and etiquette. Students will be engaged to think about 'intercultural variables' and 'communication styles' that involve both verbal and non-verbal communication. Much of the course will include reflection on short case studies of intercultural contact between Chinese and Americans (other cultures may also be considered). Students will be encouraged to question assumptions they have about "normal" communication. They will also be prompted to develop their own set of intercultural values in light of what they have learned. The course will include focused practice in the use of all four language modalities: speaking, listening, writing, and reading.

**English Language Seminar: British Literature, 18th Century to the Present**

This course will offer a survey of British literature from the eighteenth century to the present, beginning with the Romantic period and ending with postcolonial literature. Students will study the process of canon formation and the writing of literary history, the growing division between popular and high literature, and the representation of imperialism and postcolonialism. Students will develop critical thinking skills and practice English reading and writing skills through class discussion, essay writing, and short weekly writing assignments. Authors will include Jane Austen, William Wordsworth, Lord Alfred Tennyson, Virginia Woolf, and others.

**Creative Writing**

This workshop course offers a broad introduction to the art of capturing the world around you in your own original fiction and poetry. Through close readings of classic and contemporary examples, intensive in-class workshops, and vigorous revision, students will learn to make their stories and poems live on the page through attention to plot, character, dialogue, language, heartbreaking images and the mystery of the perfect line break. The course is designed for both those certain of their creative writing ambitions and those looking for a unique challenge that will strengthen their command of language in any genre: anyone can learn to tell the truth by making it up. *Equivalency:* This course counts for CRWRI-UA 815 Creative Writing: Introduction to Fiction and Poetry  
*Prerequisite:* None.

In this intermediate creative writing workshop, students will explore how writers articulate a unique "I," drawing directly from personal experience. Students will write their own narratives across several genres and in several modes, working at times from immediate observation, at others from memory, sometimes drawing upon research, and often using techniques of fiction and poetry to inspire creative writing that can push the personal essay and memoir in the direction of inspired fiction, poetry, and cross-genre experimentation. We'll often turn to the experience of living in this astonishing cosmopolitan metropolis of Shanghai, exploring, observing and writing the city; we'll also turn to our selves and our unique origins and backgrounds. We'll also explore identity in relation to travel, migration, and other forms of displacement, working to deepen the engagement with "the 'I' in the world" by doing research to enrich and inform experiments in creative personal narrative. In addition to developing their own writing projects, students will read and analyze a range of exemplary texts in which writers use the "I" as point of departure for writing about the world—moving beyond narrow exploration of the "self" into dynamic engagement with others and with the environment, with history, the city, travel—and anything and everything else a great writer can make us care about. Students must have completed Introduction to Creative Writing or be of junior or senior standing to enroll in this course.

## GCHN-SHU 110 The Concept of China

From the Warring States period to the present, what have Chinese and others understood to be the meaning of "China," and what have been the broad implications of this understanding? This course is divided into four chronological periods: Antiquity—from the period of the 'central kingdoms' to the formation of the early empire; Middle Period—China Among Equals; Early Modern: 1350-1910—China, Global Trade, and Imperialism; Modern: 1910-present—China Redux.  
Prerequisite: None.

## GCHN-SHU 164 The Stuff of Legends: The Many Meanings of the Early Silk Road(s)

Much has been said and written about 'The Silk Road' since Ferdinand Freiherr von Richthofen coined the term in 1877. Fostered by spectacular finds made by so-called 'explorers' such as Sir Aurel Stein, Paul Pelliot, Sven Hedin and others it quickly became the subject of countless museum exhibitions and legends. In times when almost any location – virtual or real – is but one mouse click away, the catchphrase 'Silk Road' has not lost any of its original appeal. Quite the contrary, the term is almost ubiquitous in all kinds of media. Yet, it is never quite clear what exactly the Silk Road concept really entails. What does it mean to you, for instance? Searching for an answer, you will encounter numerous websites, books, scholarly and popular articles, or TV documentations that seek to unravel its many mysteries and even travel agencies that aim at revealing its myths. By consulting archaeological as well as written sources this course is going to evaluate all aspects of early Silk Road history – trade, travel, war, religion, ideologies, and cultural exchange – from its earliest age through the Mongolian Era (13th century). The main goal is, however, not to look at every aspect in isolation as it is often done, but to bring them all together. This way it will become clear that actual reality was considerably more complex than is generally claimed. Only the interplay of several factors allowed The Silk Road to become a pre-modern 'success story' probably only rivaled by the internet.  
Prerequisites: None.

## GCHN-SHU 165 Seek Knowledge, even onto China: The Islamic World and China

One of the most significant geopolitical shifts of recent years has been China's increased interest and involvement in the Islamic world, from Afghanistan to Africa. However, although such connections are not new, scholars have rarely examined the long history of contacts between the Sinic and the Islamic worlds comprehensively and systematically. Assembling a wide array of primary and secondary sources on different forms of Sino-Islamic encounters, this course introduces the major events, issues, and peoples that are involved in the complex relations between them. In-depth discussions of these topics will not only provide students with new perspectives on the histories of the Islamic world and China respectively, but also historical insights to gain a deeper understanding of the newly revived Sino-Islamic relations and the emerging China-US-Middle East triangular relationship in the twenty-first century. This course welcomes all students interested in histories of the Islamic world and China. No special background is required, though of course some knowledge of the history of China and/or the Islamic world will be a plus. Although it is a seminar course (we meet once weekly), a fifteen-minute mini-lecture in each class will provide students with basic background knowledge and set the context for the following week. We will then devote ourselves to discussion of the assigned readings.  
Prerequisites: None.

## GCHN-SHU 201 Digital Chinese Humanities

This course introduces students to computational thinking with specific reference to Global China Studies, and provides a foundation for future research. Areas of focus may include the creation, enhancement, and analysis of digitized written texts, especially primary sources; methodologies for the use of the internet as a research and translation tool; the production and processing of photographs; audio recordings; video clips; and geospatial data.  
Prerequisite: None.

## GCHN-SHU 202 Archaeology in China

Archaeological discoveries since the early twentieth century and especially in recent years have transformed our understanding of China's past. This course addresses those discoveries, introduces students to the art and science of Chinese paleography, and to issues related to site preservation and the world cultural heritage.  
Prerequisite: None.

## GCHN-SHU 207 20th-century Chinese Writers in Global Context

The literary scene in the 20th century Chinese-speaking world is diverse in sound and script, vast in the scope of subject matters, and challenging for those migrant or exilic minds whose creative energy is driven by their critical insight to the world around them. Working in, outside, and between places like mainland China, Taiwan, Hong Kong, Malaysia, America, and France, Chinese-language writers may have in mind an imagined community of fellow countrymen when they write. Oftentimes, however, they may also ask provocative questions about nationalism, linguistic loyalty, and authenticity as Anglophone, Francophone, or bilingual writers living in the West. From and across multiple cultural margins, they speak to probe the nature of modernity, cultural contact, and otherness amid the global flows of labor and ideas. How do Lu Xun, Lao She, Ha Jin, Alai, and Gao Xingjian represent China on the world stage and find their place in this picture? Where in their works can we find stylistic and cultural hybridization? How do novels and stories by Zhang Ailing, Bai Xianying, Maxine Hong Kingston, Gish Jen, and Shirley Lim cement

or deconstruct the conventional ground on which we compare Eastern and Western civilizations? What kind of an alternative literary geography, and worldview, do these writers offer?

Prerequisite: None.

GCHN-SHU 224

### **Chinese Maritime History**

Investigates China's long tradition of shipbuilding and navigational practice in terms of internal riverine communication, coastal defense, and ocean voyages; its early naval dominance; the famous Ming treasure fleets that sailed as far the Persian Gulf and the east coast of Africa; Qing shipyards; and recent developments.

Prerequisite: None.

GCHN-SHU 231

### **Social and Cultural Debates in 20th Century China**

"Our present trouble lies in our clinging to old institutions without knowing how to change," Kang Youwei wrote in a letter to the Emperor in 1898. Kang's concern would dominate intellectual debates over the twentieth century. In this course we will explore social and cultural debates in 20th-century China, focusing on topics such as Confucianism, social reform, nationalism, women empowerment, and art and literature. The questions that will guide this course include: Why did scholars like Kang Youwei and Liang Qiyao advocate reform and constitutional monarchy, while others, like Sun Yat-sen and Qiu Jin, called for revolution and the overthrow of the empire? What led to the Chinese Civil War between the Nationalists and the Communists? What was the May Fourth Movement about? Who are Mr. Science and Mr. Democracy? What did Hu Shi and Chen Duxiu mean when they declared classical language 'dead'? What are Lu Xun's Diary of a Madman and Ding Ling's Miss Sophia's Diary really about? What did Mao Zedong mean when he claimed at the Yan'an Forum, in 1942: "There is in fact no such thing as art for art's sake [...] literature and art are the cogs and wheels in the whole revolutionary machine"? What is meant by the Cultural Fever of 1980s China? What made the 'hooligan' (流氓) author Wang Shuo a national bestseller in the 1980s? What were the main points of debate between the New Left and the neo-Liberals in the 1990s?

GCHN-SHU 232

### **From Qing to the Republic: Social Debates in China**

"Our present trouble lies in our clinging to old institutions without knowing how to change," Kang Youwei wrote in a letter to the Emperor in 1898. Kang's concern would dominate intellectual debates over the twentieth century. In this course we will explore social, cultural, and political debates during the transition period from the late Qing to the Republican period. We will focus on topics such as Confucianism, social and institutional reform, and nationalism. The questions that will guide this course include: Why did scholars like Kang Youwei and Liang Qiyao advocate reform and constitutional monarchy, while others, like Sun Yat-sen and Qiu Jin, called for revolution and the overthrow of the empire? What led to the Chinese Civil War between the Nationalists and the Communists? What was the May Fourth Movement about? And who are Mr. Science and Mr. Democracy? In addition to the debates themselves, the course will also cover debating techniques and students will have to participate in weekly class debates.

Prerequisites: None (students that have taken GCHN-SHU 231 should NOT take this.)

GCHN-SHU 240

### **Modern Chinese Governance**

*Introduces how the Chinese political system has been operating in the reform era. The course examines the inter-relationship between the process of economic reform that began in 1978 and the nature of governance, examining both national-level trends, as well as development in the localities. A portion of the course will specifically evaluate the role of Shanghai in the Chinese administrative hierarchy.*

Prerequisite: None.

GCHN-SHU 241

### **Chinese Revolutions**

Revolutions both successful and unsuccessful in China; foreign influences and their significance in this context. Ideology, participation, leadership, strategies and tactics adopted by such diverse groups as the White Lotus, Taiping, and Boxers; the 1911 nationalist and 1949 communist revolutions, and their legacies.

Prerequisite: None.

GCHN-SHU 242

### **Mao and the Chinese Revolution**

This course introduces the historical relationship established in the twentieth century between Mao Zedong, his philosophy of history and revolution, and the Chinese Revolution in global context. The course provides a thematic lens through which to view one aspect of modern Chinese and global history. The working premise is that the revolution made Mao as much as Mao made the revolution. We will investigate Mao's thought and theories, as well as his revolutionary practice, not as biographical artifacts but as products of and contributors to the revolutionary situation in China and the world in the twentieth century. We end with Mao's afterlives.

Prerequisite: None.

GCHN-SHU 243

### **Chinese Environmental Studies**

How and why has the understanding of humans' relationship to nature changed in China, and how effectively

has the Chinese state responded to environmental challenges at the local, national and global levels? Examines changing approaches to resource exploitation and sustainable development taking into account the impact of different political frameworks.

Prerequisite: None.

GCHN-SHU 250

### **Chinese Geographies**

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This course examines questions of geography, topography, and ethnography from the early imperial period to the present with special attention to Chinese borderlands. Topics include the relation between center and periphery; cross-border relations; the changing population of residents and sojourners. Han and minorities; travel and transportation networks; and trade and material exchanges including the "tributary system".

Prerequisite: None.

GCHN-SHU 251

### **Worldwide Chinese Diaspora**

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This course introduces students to the history and cultural formations of worldwide Chinese migrations and diasporic communities, including change over the last two centuries and evolving global diasporic relationships and interactions. Some topics of interest include Zheng He's legendary maritime travels on the imperial treasure fleets, the opium trade and its implication for early transnational Chinese capitalism, labor migration and exclusion in North America, socio-political and cultural indigenization of Chinese communities in Southeast Asia, and the coolie trade in the Caribbean region. Materials of study include history, essay, literature, and film.

Prerequisite: None.

GCHN-SHU 252

### **20th-Century East Asia-U.S. Relations**

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This is a lecture course focusing on the changing relationship between East Asian countries and the United States in the 20th-century. On the basis of reviewing the early encounters between East Asia and America in the 18th and 19th centuries, this course covers the major political, economic, military, and cultural developments, as well as the dynamics underlying them, that have shaped the confrontation and cooperation between various East Asian countries and the United States in the past 100 years. In particular, this course aims to help students develop a better understanding of how nations with different values, cultural-historical backgrounds, political institutions, and levels of economic development may coexist in today's world.

Prerequisite: None.

GCHN-SHU 263

### **Voices from the Margin: Modern Chinese and Sinophone Writers**

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The literary scene in the modern and contemporary Chinese-speaking world is diverse, vast, and challenging for the migrant and exilic minds whose creative energies are often driven by their poignant insights to the turbulent events around them. Working in, outside, and between places like mainland China, Taiwan, Hong Kong, America, and parts of Southeast Asia, Chinese-language writers ask questions about nationalism, tradition, ethno-linguistic politics, and cultural authenticity. They speak from and across multiple cultural margins to probe the nature of modernity, cross-cultural contact, and otherness amid the global flows of labor and ideas.

This course invites students to participate in the ongoing discursive and historiographical debates over the study of "modern Chinese literature" through a fast-emerging transnational and comparative perspective. Reading stories, novels, and essays by both established and marginalized writers, we place the traditional nation-based rubric of Chinese literary studies in critical dialogues with a set of jarring historical contexts: Euro-American imperialism, Chinese emigration and their settler-colonial history, the post-1949 political split, and global decolonization movements, among others. We ask: how do writers represent China on the world stage? Where in their works can we discern stylistic and cultural hybridization? How do they variously cement or deconstruct the conventional East-West divide? What alternative literary geographies and worldviews do they offer? We begin with the satirical modernists of Republican-era China. Next, we turn to Hong Kong and Taiwan for identity debates, colonial legacies, nativism, and postmodern cultures. In light of the global migration history, we also study narratives from Chinese-speaking America, Malaysia, and Singapore to analyze how writers creatively deconstruct the notion of Chineseness. Finally, we discuss the changing terms of exclusion and inclusion of ethnic minorities in present-day Han-Chinese societies, to further expose the internal fractures within the global Sinophone cultures.

GCHN-SHU 264

### **Chinese Migrant and Diasporic Networks**

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The history of Chinese emigration spans numerous centuries, continents, and islands. Equally heterogeneous, one should note, are the lived experiences of migrants and their younger generations. In recent decades, ideas like "Chinese transnationalism" and the "rise of China" have gained ground among popular and academic circles East and West; at times, they generate the nervous Exclusion-era imagination of a looming "Asiatic takeover." Such a fervently growing imagination notwithstanding, this line of discourse and belief suggests a number of persistent problems in the studies of Chinese overseas, or Chinese diaspora: for one, while recognition of a global Chinese presence has taken on renewed importance in recent years, scholarly conversations have been modest and sporadic at best, when it comes to scrutinizing the full spectrum of migrant and diasporic cultures (both in and prior to the twentieth century) beyond the re-iterations of ethnic homogeneity, nationalist sentiments, nostalgia, and cultural alienation. Among the humanists, the failure to address long-term practices of social indigenization, multiethnic networks, and the change of cultural affinities makes our current historical juncture a particularly urgent one for reconsidering the meanings of these globalizing networks and the applicability of "Chinese" to the inherently diverse diasporic articulations.

Materials of our study are drawn from multidisciplinary sources, including history, theory, fiction, and visual culture. Students learn to explore the intricate conditions underlying the representations, making, and unmaking of Chinese subjectivities. Some topics of interest include Zheng He's now legendary maritime travels on the imperial treasure fleets, the opium trade and its implication for early transnational Chinese capitalism, labor migration and exclusion in North America, socio-political and cultural indigenization of Chinese communities in Southeast Asia, and the coolie trade in the Caribbean region.

GCHN-SHU 270

#### **Researching Chinese Politics and Society**

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Examines how various methodologies in the social sciences are used for research about social and political trends in contemporary China. Themes include understanding the production of information by the Chinese statistical system, understanding how to use this data effectively, the use of mapping / GIS techniques, survey-research and survey experiments, internet research and web-crawling innovations, as well as the analysis of Chinese textual data. Students will actively make use of these approaches for their assignment. Prerequisites: none, but it is desirable to have taken either a math, a statistics or a programming course.

GCHN-SHU 290

#### **Topics in Global China Studies**

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*Specific topics vary from semester to semester. Prerequisite: None.*

GCHN-SHU 342

#### **The Political Economy of East Asia**

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This course focuses on China's political and economic development over the last century and a half with particular attention to the last 33 years, the so-called Reform Period. Our three primary objectives are to (1) understand the historical trajectory of China's development path; (2) consider in what ways and to what degree the growth experiences of East Asia's high-performing economies helped inform China's economic policymakers decisions and shed light on the prospects for the long-term success of reforms in China; (3) assess the state of China's contemporary political economy. Prerequisite: ECON-150 and SOCS-160.

RELS-SHU 9270

#### **Religion and Society in China: Ghosts, Gods, Buddhas and Ancestors**

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This course is a survey of the major historical and contemporary currents of China's religious thought and practice, including Buddhism, Confucianism, Daoism and "popular religion". It will focus on the interactions between such teachings and practices, as well as on the role of religion in Chinese society. You will study topics such as divination, visual culture, ritual, ancestor worship, morality, longevity techniques, healing practices and meditation. A selected number of primary and secondary sources will be discussed in each lecture; documentary films and visits to religious sites will be also key constituents of the course.

HUMN-SHU 225

**Topics in Asia-Pacific History Asia-Pacific History in the 20th Century**

This course uses the geographic framework of the "Pacific Rim" to understand the historic connections between Asia and North America during the long 20th century. Traditionally, Asian history and U.S./ North American history have been treated as distinct areas of studies. While there is good reason for distinguishing these fields from one another, there are equally good reasons for looking at the intersection of them. Most importantly, history does not unfold within neat geographic boundaries. People, commerce, ideas, culture have all crisscrossed these geographic borders. To fully understand transnational history, then, we historians must also be willing to abandon tradition. This course examines the emerging historiography on the linkages between Asia and North America. We will pay particular attention to the movement of labor and capital, and to a lesser extent the exchange of ideas and culture. This emphasis on labor and capital reflects my own bias as a historian, and I welcome debate on how we think about the historical forces creating transpacific connections. The secondary themes are changes in identity and citizenship, reconfiguration of family, and the rise of transnational social networks, which are the result of labor and capital circulations.

Prerequisites: None.

HUMN-SHU 226

**The Global Economy in the 20th Century**

This course explores global economic history from the second industrial revolution and colonial economies of the late nineteenth century to the multipolar globalization of the late twentieth and early twenty-first centuries. It will trace the rise and relative decline of different national economies, especially the United States, and chart how technology, trade, investment, and politics created different economic connections. Topics will include different forms of production, changing cultures of consumption, shifting labor forces, economic crises, and the economic theories such as Keynesianism, neoliberalism, communism, and modernization, which have shaped economies across the long twentieth century. Jeffrey Frieden's *Global Capitalism: Its Fall and Rise in the Twentieth Century* will be the basic text for the course. Additional articles and book chapters will supplement this book. Excerpts from documentaries and feature films on such themes as microcredit, mass consumption and deindustrialization/reindustrialization will be shown. Students will write two six page papers and have a final exam. In addition, they will be asked to track one country and its changing place and fortunes/misfortunes in the global economy and submit brief reports on that throughout the term. Students will choose a smaller country rather than one of the major global players about whom we will read more extensively. Those reports will be 1-2 pages each and will be submitted every third week of the semester, for a total of 4 reports and a total of 6-8 pages of writing. The final exam will be a mixture of short identifications and two essay questions. A list of 5 essay questions will be given out in advance and on the day of the exam, Professor Nolan will choose the questions on which students will write.

Prerequisite: None.

HUMN-SHU 229

**Masters of Asian Cinema**

This course introduces students to the basic concepts and methods in film studies by focusing on a select number of eminent auteurs in Asian cinemas. Our objectives are many: first, we situate within their particular socio-historical contexts the masterworks by master-directors like Akira Kurosawa, Yasujiro Ozu, Zhang Yimou, John Woo, Wong Kar-wai, Hou Hsiao-Hsien, Sanjay Leela Bhansali, Mani Ratnam, and Deepa Mehta. In doing so, we learn the divergent developments between and within Japanese, Chinese, and South Asian film industries. We then analyze how these directors make various stylistic choices to address issues of kinship, nation, gender, historical memory, modernity, and globalization. Against the background of 20th century cross-cultural encounters, we also study the contributions of these auteurs to world cinemas and the cross-fertilization in style between these film masters.

HUMN-SHU 240

**Gender, Sexuality, and Culture**

This course invites students to think about some of the most carefully controlled but also fervently sought-after questions since the time of Plato: what is the difference between gender and sex? What is the relationship between our gendered bodies, behaviors, and identities? How does sex, something we do, translate to the discourse of sexuality, something we talk about? What is the measurement of normality? If art indeed imitates and even changes life, in what ways do images of gender performance in literary and visual culture also reproduce and perhaps reshape our own experiences as gendered and sexed beings in a society? What can gender and sexuality tell us about the construction of culture, its boundaries, and its "outlaws"? Through the reading of philosophical, literary, historical, medical, and visual texts, and through discussions of case studies in mass media, we learn to see gender and sexuality as an evolving historical phenomenon rather than essentialist notions. We ask how the development of human interest in sexuality coincides with the burgeoning of governing techniques in modern times to police and promote sex simultaneously—as desirable and useful on the one hand, but also forbidden and harmful on the other. Lastly, as humanists, we ask how the boundary of our body (that is, our inside and outside in the most literal sense) is marked less by our blood cells, skin pores, or molecules than by our use of language.

Prerequisite: None.

HUMN-SHU 260

**Critical Theories and Methods of Literary Studies**

Major texts in critical theory from Plato to Derrida are considered in relation to literary practice. The first half of the course focuses on four major types of critical theory: mimetic, ethical, expressive, and formalist. The second half turns to 20th-century critical schools, such as Russian and American formalism, archetypal criticism, structuralism, psychoanalytic criticism, feminism, reader-response theory, deconstruction, and historicism.

Prerequisite: None.

HUMN-SHU 264

**Reading The Dream of the Red Chamber**

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The Dream of the Red Chamber is an epic literary classic produced by Cao Xueqin in the middle of the 18th century. Following the traditional form of Chinese fiction, known as "the chaptered novel," it covers a vast terrain of Chinese culture and social life and is widely regarded as the culmination of the vernacular novel of imperial China and a synthesis of Chinese aesthetic and philosophical traditions. With the tragic love story between two teenage members of an aristocratic clan in southern China at its dramatic center the novel intimately explores the questions concerning what is eternal and what is ephemeral; love and affection, or "qing," as the heart of being that both animates and destroys life; the nature of individual talent and its fragility; the excesses and decadence of the privileged; as well as the growing, if hidden, social and class tensions. Its manifold structure, intricate plot development, coupled with its dazzling array of memorable characters, makes this novel the most complex and colorful of all times. Both reading and discussions are conducted in English.

Prerequisite: None.

HUMN-SHU 265

**Country and City in Modern Chinese Literature and Film**

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The story of modern China is, in a sense, the story of the transformation of a rural society into an urban, industrial one. This change has altered people's experience and consciousness and, in turn, their cultural visions and artistic expressions. This course focuses on the tension and mutual dependency between country and city in modern China as viewed through the prism of Chinese fiction and film. The class discusses such works as Lu Xun's Hometown and New Year's Sacrifice, Mao Dun's Spring Silkworm, Shen Congwen's Vegetable Garden, Ailing Chang's Sealed Off, and Shi Zhecun's One Evening in the Rainy Season, and such films as Crows and Sparrows and The World.

Prerequisite: None.

HUMN-SHU 267

**Representing Ethnicity in China and Beyond: A Comparative Study**

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This course introduces students to the various theories, practices, and representations of multiculturalism in mainland China, Taiwan, Hong Kong, and Singapore from the 20th century onwards. Setting focus on how ethnicity (minzu) and race (zhongzu) emerge as a historically grounded and changing public discourse, we engage in a comparative examination of multiculturalism as an incomplete ideal. Within and across each of these multiethnic, or multiracial, societies where Han Chinese constitute the majority, we ask how nation-building processes bear on the transformation of minority culture, and vice versa. Toward the end of the course, we also probe the growing impact of domestic and transnational labor migration on the so-called ethnic mosaic. Our goal is not only to understand diversity as a social reality; in asking how such a reality finds voice in various artistic forms including short story, novel, documentary and fiction film, we also train students to do the rigorous work of literary and cultural criticism.

Prerequisite: None.

HUMN-SHU 268

**Empires & The Political Imagination**

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Empires—polities which maintained and enhanced social and cultural distinction even as they incorporated different people—have been one of the most common and durable forms of political association. This course will focus on the comparative study of empires from ancient Rome and China to the present, and upon the variety of ways in which empires have inspired and constrained their subjects' ideas of rights, belonging, and power. The study of empire expands our ideas of citizenship and challenges the notion that the nation-state is natural and necessary. Students in this course will explore historians' approaches to studying empires. We will investigate how empires were held together—and where they were weak—from perspectives that focus on political, cultural, and economic connections over long distances and long time periods. Readings will include historical scholarship on the Roman, Chinese, Mongol, Ottoman, Habsburg, Russian, French, British, and American empires, as well as primary sources produced by people living in these and other imperial polities.

Prerequisite: None.

HUMN-SHU 269

**Empires in World History**

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Throughout history, few people lived for very long in a polity that consisted entirely or even mainly of people with whom they shared a language and culture. Any examination of the variety of human cultures must take account of the political structures within which people tried to make their way, sometimes seeking higher degrees of autonomy, sometimes accommodating to rulers' authority, sometimes trying to extend their own power over others. Empires—polities which maintained and enhanced social and cultural distinction even as they incorporated different people—have been one of the most common and durable forms of political association. This course will focus on the comparative study of empires from ancient Rome and China to the present, and upon the variety of ways in which empires have inspired and constrained their subjects' ideas of rights, belonging, and power. The study of empire expands our ideas of citizenship and challenges the notion that the nation-state is natural and necessary. Students in this course will explore historians' approaches to studying empires. We will investigate how empires were held together—and where they were weak—from perspectives that focus on political, cultural, and economic connections over long distances and long time periods. Readings will include historical scholarship on the Roman, Chinese, Mongol, Ottoman, Habsburg, Russian, French, British, German, and American empires, as well as primary sources produced by people living in these and other imperial polities.

Prerequisite: None.



**Shanghai Stories**

This course provides an introduction to the history and culture of Shanghai through the eyes of fiction writers. We will read short stories (in English translation) by Chinese, British, American, Japanese, French, Polish, and South African writers who lived in the city between 1910 and 2010. Their stories will take us on an imaginary city tour through time and space: from businessmen, politicians, and prostitutes gathering in the nightclubs of the Old Bund, to Jewish refugees struggling to find a home in the poor shikumen neighborhoods of Hongkou, to teachers and students fighting political battles at the university campuses during the Cultural Revolution, and young urban youth pursuing cosmopolitan lifestyles in the global city of today. The course also includes trips to various places featured in the stories and guest lectures by some of Shanghai's most famous writers today.

Prerequisite: None.

HIST-SHU 120

**The Mongol Conquest in World History**

The Mongol conquest was a major turning point in world history. Not only did it remake the map of much of Eurasia and the Middle East, but it transformed the economic foundations of pre-existing societies, their political systems and cultural traditions. At the same time, the world (as it was then known) became more interconnected, and commercial networks were developed. Beginning with an examination of the reasons behind the rise of the Mongols, and proceeding to an analysis of their conquest, the course will focus on several thematic issues, such as the Mongol political culture, their military system, their territorial expansion, and their government and administration in all the constitutive parts of their empire (China, Central, Asia, Iran, and Russia). Moreover, special attention will be paid to relations between the Mongols and Europe, and to the development of commercial routes. Original sources in translation, in particular diplomatic documents, chronicles and reports will be included in the readings. The course will be complemented by visual materials to illustrate how the Mongols have been represented in movies and popular culture.

HIST-SHU 125

**China's Last Empire: Understanding Qing History, 1636-1911**

The Qing empire was the second major empire of China ruled by foreigners (first by the Mongols, second by the Manchus). Thinking of the Qing state not merely as a Chinese dynasty but as an empire provides us with an approach to examine a wider range of connections and imaginations. We will ask how the Manchu institutions and the role of frontiers gave the last empire its particular shape and identity. We will study the Qing empire in its relation to the world, the students will gain a sense of how Qing China and global processes have interacted and shaped each other. The course proceeds and develops as a mix of thematically and chronologically organized topics. The topics that we will explore include the Manchu conquest and the formation of the Manchu state, the Manchu way of life and "sinicization," prosperity in the High Qing and its problems, opium wars and treaty ports, disorder and dissent in the late Qing, the fall of the Qing empire and the 1911 revolution, the legacies of the Qing empire. In surveying this history from the formation of the Manchu empire to the creation of the Chinese republic in 1912, this course aims to provide an understanding of the changes, contingencies, and continuities in the making of modern China. The material we cover will range beyond that of scholarly works, to include Chinese and Manchu primary materials in English translation, visual materials, and film screenings—all of which will constitute sources of information as well as topics for analysis. (satisfies Core Curriculum: Social Science Perspectives on China)

HIST-SHU 126

**World History: Part I**

This course examines the emergence of world societies and the interactions between them from prehistoric times to about 1450CE. A comprehensive study of specific periods and regions will be followed by an in-depth analysis of primary sources and cross-regional contacts.

HIST-SHU 153

**History of Modern China Since 1840**

This course covers the history of China focusing on the past two centuries and especially the 20th century, when China underwent several major revolutions. We will follow chronologically the development of China starting with the foundation and consolidation of its last major dynasty, the Qing in 1644, moving through the collapse of the dynastic system and the rise of the first Republic of China in 1912, continuing through the Nationalist Revolution of 1927, and ending with discussions of the formation and development of the People's Republic of China since 1949. Large themes that run through the course include the impact of Western colonialism on China, the role of internal rebellions and wars in giving rise to new political and social formations, the impact of Japanese aggression on China's state and society, the Nationalist and Communist Revolutions, and the endurance of the centralized Chinese state. Two excursions to historic sites in Shanghai will reinforce students' knowledge and understanding of the subject matter while also highlighting the important role of Shanghai in modern Chinese history.

HIST-SHU 179

**History of Modern China in a Global Context**

This course situates changes in China since the 1800s in a world and global context. Through reading primary texts and secondary studies, students will explore how the process of empire-making, global capitalist expansion and anti-capitalist revolutions, and liberalization shaped the social, cultural and political changes in modern China since the 1800s. This course is also designed to help develop skills including identification of primary and secondary sources and critical analysis and evaluation of primary and secondary sources. This is a writing and reading intensive course. Students are expected to learn through careful reading, engaged discussion, and writing/testing

assignments. All the readings are in English, and the course presumes no previous knowledge of China. (fulfills NYU Shanghai SSPC Core Curriculum).

HIST-SHU 208

### **War and Peace: Europe Since 1900**

This course will provide a broad introduction to the political, social and cultural history of Europe since 1900. The location of the most violent conflict in human history during the first half of the twentieth century, Europe's postwar development was based on a principle of peace through prosperity and the political ideal of an 'ever closer union'. In recent years, however, the combined economic and migrant crises have put this postwar consensus to a test. Taking the continent's delicate union as its central concern, the seminar will familiarize students with key themes, methods and problems in Modern European History. Structured chronologically, individual sessions will examine European modernity and fin-de-siècle culture; empires and colonialism; the causes, experiences and effects of the First and Second World Wars; the Holocaust; Europe's role in the Global Cold War; the crisis-ridden 1970s; and the crucial question of whether a distinctive European identity has developed over time.

HIST-SHU 225

### **The Global Space Age**

Over the course of the twentieth century the infinite void that surrounds planet Earth has stimulated the human imagination as never before. For several decades, anticipation of human spaceflight was intimately bound with futuristic visions of techno scientific progress, while space exploration became key to societal self-images. This course charts the rise and fall of the Age of Space from a global perspective. Individual sessions will be devoted to the 'rocket fad' of the Weimar Republic, Nazi 'wonder weapons', the so-called Sputnik shock and the American moon landings, as well as providing an introduction to the historical origins of techno-nationalism, from the Cold War to today's Space Race in Asia.

HIST-SHU 226

### **5000 Years of Chinese History: Fact or Fiction?**

Nowadays, the notion that China looks back on 5,000 years of history seems to be common knowledge. At first one might wonder: what is so special about that? There have been many advanced civilizations in ancient antiquity: Egypt, Babylonia, Greece, the Roman and Aztec empires are but a few examples that immediately spring to mind. On closer inspection, though, it is quite obvious that all of these civilizations have one thing in common: they no longer exist! China and Chinese culture, on the other hand, is still alive and kicking. It is the only civilization on the planet that claims to have developed for five millennia without interruption. But, is this really true? And, more importantly, where exactly does such an assertion come from? These are but two questions this course is going to address. Some readers might dismiss them as quixotic musings of an early China specialist. They would be utterly wrong, however, to assume that these issues have no relevance for modern-day China. Precisely because Chinese culture survived for such a long time many contemporary habits are firmly rooted in ancient traditions, whether we are aware of it or not. Since most of us are largely ignorant of the actual repercussions of China's enduring history, this course ultimately aims at disclosing them. This means that we are going to analyze historiographical records and compare them with archeological evidence. In order to get a sense how history was perceived at various historical stages, we are also going to spend some time with commentators of early Chinese texts. Finally, we will, of course, try to figure out how the practice of historiography and archeology influences the China we all live in – for the moment at least – today.

HIST-SHU 232

### **Moments of Europe**

This course will provide a broad introduction to the history of Europe since the French Revolution. Organized around eight exemplary 'moments of Europe' spanning two centuries, it will familiarize students with some of the principal themes and methods involved in the writing of Modern European History. Structured chronologically, individual sessions will be devoted to the revolutions of the early nineteenth century, processes of nation building, fin-de-siècle culture, the causes, experiences and effects of the First and Second World Wars, the transeuropean protest movements of the 1960s and 1970s, in addition to the crucial question of whether a distinctive European identity has developed over time. Materials used include political treatises, fiction, images and film.

HIST-SHU 240

### **The Soviet Empire, 1917-1991**

This course explores the history of the Soviet Union from its birth as a utopian experiment in October 1917 to its final collapse in December 1991. Through the extensive use of original documents, literary and artistic works, and artifacts of popular culture, the course examines the major political, cultural, and social events that contributed to the rise and fall of the Soviet Empire. While emphasis will be given to the fundamental issue of the nature and evolution of Soviet political culture, the course will also explore essential social, scientific, and artistic transformations that helped to shape the domestic Soviet experience and its international repercussions.

HIST-SHU 250

### **China at the Center? An Exploration of Chinese Foreign Relations**

China at the Center? An Exploration of Chinese Foreign Relations from Pre-imperial to Late Imperial Times The main title of this course is an allusion to a book authored by Mark Mancall in 1984. However, there are some crucial differences between his approach to Chinese foreign relations and the subject of this course. Mancall has claimed – as have so many scholars before and after him – that Chinese interactions with the outside world were dictated by an ideology that saw China's culture as superior to the surrounding 'barbarians.' This concept is now widely known

as the so-called 'tributary system.' We are going to explore whether such assertions indeed have any merit. One little hint: things might not have been as easy as they appear at first glance. Over the course of the semester we will be tracing Chinese foreign relations from roughly the 6th century BCE (was there even a 'China' that could set itself apart from the 'other?') through the 19th century CE, that is to say the period when the Qing dynasty (1644-1911) was forced to interact with western powers such as the British Empire. Even today when there seems to be an abundance of media coverage, the meanings of bilateral or multilateral exchanges take quite some effort to deduce; too many details remain hidden from the public eye. The (ancient) past, of course, is even less generous with data. Nevertheless, there is plenty of information to be had; we just have to look for it. Thus, participants in this course will have the opportunity to immerse themselves in various kinds of sources: historiographical records, material culture, or personal diaries to name but a few. In doing so, our main objective will be that we develop a critical, analytical attitude toward said sources that will ultimately lead us to a more nuanced understanding of Chinese dealings with the outside world.

HIST-SHU 302

### **History of Water**

While global citizens have long been concerned about conserving and rationing our use of fossil fuels, the same cannot be said for an even more precious resource – water. Only in the last few years have government agencies, NGOs, and the market begun to tackle the problem of dwindling water resources. The current statistics and projections are dire. If we do not come up with new technologies to conserve water and use it more efficiently, more people will be without clean water or enough food. The United Nations estimates that by 2030 as many as 4 billion people will not have access to enough water for their basic needs. During the course of this semester we will read about both contemporary issues that affect us as well as look at the historical context in which these problems developed. We will use case studies as a method for discussing these issues. Case Studies will include: the United States, in particular the American West and New York City; Early Modern Venice and Egypt, and modern day African and China.

HIST-SHU 303

### **Histories and Politics of Noise**

In this seminar, students will consider the idea that "noise" has a history, and that its history dates long before the industrial revolution's ratcheting up of noise levels due to heavy machinery and the reproduction and amplification of sound through electronic technologies. Some noises pierce our ears and disrupt both our hearing and our thinking. In contrast, background noises may be loud, persistent, and even harmful to our ears, but they suffuse our everyday lives so fully that we can ignore them. Despite our daily subjective encounters with noise, can noise have a political meaning as well, one that transcends our individual experiences with din and discord, cacophony and clamor? This course explores noise's relationship to history and politics. By spending the semester reading, talking, and writing about noise, we will seek to comprehend it rather than contain it.

HIST-SHU 312

### **China Encounters the World**

This is a lecture course on China's encounters with the world in the late 19th and 20th centuries. The course analyzes the age-old Chinese "Central Kingdom" self-image and how the image was overturned during modern times in face of Western and Japanese challenges; it explores the Chinese "victim mentality" and its impact on China's modern international experience; it examines China's foreign policy issues in the context of its political, economic, social and cultural developments in broader terms; it also pays special attention to the role of "human agencies" in the shaping of historical processes.

HIST-SHU 325

### **The New Cold War History**

This is a reading and research seminar with an emphasis on the "new" Cold War history—a scholarly phenomenon emerging in the 1990s, along with the end of the global Cold War and the new opportunities to conduct multiarchival and multi-source research for scholars of international history. Students in this class will be exposed to various new interpretations, new methods of research, and new ways of thinking associated with the new Cold War history studies. Readings in this class will be focused on the scholarship that has appeared since the early and mid-1990s. Students are required to write several books reviews and a comprehensive review essay, as well as to present and critique the comprehensive review essay in class. The ultimate purpose of the course is to help students take the Cold War as a useful reference to pursue a better understanding of the challenges facing the human race in the 21st century.

HIST-SHU 329

### **Futures of the Twentieth Century**

The present is only one possible outcome of the many ways in which it has been imagined in the past. While historians usually do not aim to predict the future, they have become increasingly interested in how societies and cultures projected their development in the past. While such scenarios are often fascinating in themselves, they are of particular historical interest as gauges and indicators of how societies understood themselves and evaluated their then present conditions. Largely chronologically organized, this course explores the future's multifaceted history in twentieth-century Europe and the United States, from the emergence of 'scientifiction' in the 1920s to the 'end of utopia' during the crisis-ridden 1970s. Particular attention will be paid to 'enhancements' of the human body, futuristic technologies (flying cars, time machines, computers) and human habitats (the classless city of tomorrow, underwater settlements, space colonies).

**European Religion from the Reformation to the Enlightenment**

European Christendom exploded in the sixteenth century, creating a fragmented and fractious religious landscape that still marks Europe (and Christianity worldwide) to this day. In this undergraduate lecture course, students will examine the significant changes European Christendom experienced between the Protestant and Catholic Reformations through the Enlightenment, and will explore the impact of new religious dogmas, beliefs, practices, and institutions upon the broader order of European politics, society, and culture. The readings, which consist of both primary and secondary sources, will demonstrate that the religious changes in this period shaped not only the thinking of theologians and clergymen, but also affected the everyday lives of people throughout Europe. Furthermore, the course will examine how various denominations of European Christianity participated in Europe's commercial, colonial, and imperial projects in the Americas, Africa, and Asia. Students will thus also consider the interactions, both within and beyond Europe, between European Christianity and other world religions.

LIT-SHU 101

**Foundations: What is Literature?**

This course provides an introduction to literary theories and methodologies. We will analyze such different approaches to literary expressions as classical, modern, structuralist, post-structuralist approaches; Marxist, colonial and post-colonial approaches, including feminist and post-human methodologies for different literatures. The course will emphasize the shifts and turns in these approaches. The aim is to acquire knowledge of a variety of literary approaches at work when reading literature and of the relationships between text, author, writing and audience.

Prerequisites: None.

LIT-SHU 150

**World Drama: Classical Conceptions**

This course attempts to infuse global content and employ global perspectives in studying the classics from great theatrical traditions of the world. To examine the classics from ancient Greece through Renaissance Europe to Restoration England along with those from classical China, India and Japan is to transform how they are understood; also transformed is one's understanding of drama when studying Sophocles, Kalidassa, Shakespeare, Tang Xianzu, Chikamatsu and Molière in the same sequence. The objective is to deepen our understanding of the diverse aesthetic principles and cultural values that continue to impact today's theatre and drama around the world. This course is an upper level elective for NYU Shanghai Humanities majors and NYU New York English majors.

LIT-SHU 220

**Shakespeare I: tragical comedies**

Midsummer Night's Dream  
The Merchant of Venice  
The Tempest

"Comedies, Histories, Tragedies"—these categories originate with the First Folio of 1623. They are, arguably, not those of Shakespeare, who had been dead for seven years when Heminges and Condell, two actors in the playwright's company, put the volume together. On the evidence of the plays themselves the scheme is far too rigid. For example, *The Merchant of Venice* is billed as a comedy, but its humor is of the darkest and most troubling kind. The court impresario in *A Midsummer Night's Dream* introduces the play within the play (a hilarious farce in which two characters die) as promising "very tragical mirth." *Titus Andronicus* is a tragedy; yet at the moment of his most profound suffering, Titus bursts into laughter. His brother asks, "Why dost thou laugh? it fits not with this hour," to which Shakespeare's tragic hero replies: "Why, I have not another tear to shed."

Through close reading, with attention to their historical and critical context, and by means of film adaptations of the plays, these two courses will explore the "fit" between laughter and tears in Shakespearean theater.

LIT-SHU 221

**Shakespeare II: Comical Tragedies**

*Titus Andronicus*  
The First Part of King Henry the Fourth  
Anthony and Cleopatra

"Comedies, Histories, Tragedies"—these categories originate with the First Folio of 1623. They are, arguably, not those of Shakespeare, who had been dead for seven years when Heminges and Condell, two actors in the playwright's company, put the volume together. On the evidence of the plays themselves the scheme is far too rigid. For example, *The Merchant of Venice* is billed as a comedy, but its humor is of the darkest and most troubling kind. The court impresario in *A Midsummer Night's Dream* introduces the play within the play (a hilarious farce in which two characters die) as promising "very tragical mirth." *Titus Andronicus* is a tragedy; yet at the moment of his most profound suffering, Titus bursts into laughter. His brother asks, "Why dost thou laugh? it fits not with this hour," to which Shakespeare's tragic hero replies: "Why, I have not another tear to shed."

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China's rich record of profoundly beautiful poetry is integral to its identity as a civilization, a nation, a people. English-language translations of that poetry are attempts—also often profoundly beautiful in their own right—to translate something essential about that very identity. Yet, as we know, much is always “lost in translation,” and different versions of different classic texts vary greatly in what is shown, what is hidden, what is distorted, and what is invented. For those with little knowledge of Chinese poetry, this class will serve as an introduction by way of English translations; for those with a strong knowledge of the original Chinese classics, the class will re-present poets from Li Bai and Du Fu to Bei Dao and Gu Cheng as they have variously appeared globally to Anglophone readers the world over. All students will deepen their engagements not only with poetry and challenges of Chinese-English literary translation, but also with compelling questions arising from the philosophy of language, translation theory and literary criticism that ask us to radically reconsider how culture is represented, transmitted, and transformed by the act translation. (satisfies Core Curriculum: China Arts)

Magic realism is a term that was originally coined by Franz Roh in 1925 to describe Post-expressionist visual art in Europe; however, since that time it has become synonymous with a literary genre in which marvelous elements touch and merge into an otherwise normal reality. Traditionally this genre has been associated with Latin American literature and writers, most famously Gabriel Garcia Marquez and Jorge Luis Borges. Yet, the global spread of this genre indicates that it is not exclusively the creative voice of a post-colonial mind, seeking to reconcile its new present with the traditions (and often superstitions) of a colonial and pre-colonial past. Today, the political criteria for inclusion in the genre is as subject to question, as are the very terms post-colonial and post-modern and their allocation. As the magic realist novel is taken up by author's whose cultural history would seem to exclude them from this category, it has revealed its import in the critical landscape as a form with a “capacity to link many different literatures” (206).

In this class we will be reading several magic realist novels and short stories from authors born in different countries, including Columbia, India, and the USA as we build up to a consideration of the genre as found in modern Chinese literature. We will examine how each of these authors uses the magic realist voice to speak to his or her cultural history, national future and personal sense of identity. Since classes will involve analyzing the texts from a variety of theoretical stances, and discussing our responses to their ideas and content, students should be prepared to keep up with the reading and contribute in class.

Works Cited:

De La Campa, Roman. “Magic Realism and World Literature: A Genre for the Times?” *Revista Canadiense di Estudios Hispánicos*. 23:2 (Invierno 1999): 205-19.  
(satisfies Core Curriculum: China Arts)

This course introduces twentieth century narratives of urban life from Spain and Latin America. Through artistic and cultural depictions, the urban hubs of Barcelona, Madrid, Buenos Aires, Mexico City, Havana and New York can be read as archaeological sites of history and memory. We will read and discuss the novels, short stories and poetry of diverse authors including Federico García Lorca, Jorge Luis Borges, Roberto Bolaño, Alejo Carpentier and Octavio Paz, working with translations of their work in English. Using images, newspaper accounts, filmic and documentary representations, students will analyze and distinguish specific national, regional and linguistic contexts, while grappling with larger thematic notions of intellectual, literary, and artistic migration across national borders.

The substantive goal of Global Shakespeare will be to assess the influence—by way of translation, performance and criticism as an index to more general forms of cultural adaptation and appropriation—of “Shakespeare” as a global phenomenon. The scare quotes are meant to designate the Bard and his works, in the first instance as the product of the English Renaissance, but beyond that as a fund of “cultural capital” with its own global investment that continues to pay dividends after four centuries. More than any other “western” literary figure, Shakespeare has served as the metric by which subsequent ages have calibrated their own relationship to the dominant (artistic and national) culture he has come to represent. Thus we have the Shakespeare translation by Schlegel and Tieck, a classic of German romanticism; the Japanese Shakespeare of Kurosawa's *Throne of Blood* (the film that repositions Macbeth somewhere between feudal- and post-Hiroshima Japan, with stylistic elements drawn from Noh drama); the post-colonial *Une Tempête* of the contemporary Afro-Caribbean writer Aimé Césaire; and a hip-hop *Romeo and Juliet* directed by Tian Qinxin. This last raises one question we will want to address, insofar the director claims that even though everything else has changed, not least the language, the spirit of Shakespeare has been preserved. What is this “spirit” that seems both to guarantee that whatever changes are wrought, some essential core remains that allows the director to claim that it's still Shakespeare? This disembodied spirit: “Shakespeare” seem capable of moving effortlessly through time and space, coming to rest in ever-new habitations but always under the same name. One way to think about the director's claim is to ask what the word (translated as “spirit”) actually means to her in Chinese. This question focuses in turn on the pedagogical goal of the course. In addition to tackling the plays on the syllabus in English, the students will be asked to read the plays, alongside the English text, in whatever other language they possess—“Shakespeare” speaks Chinese, obviously, but also French, Spanish, Dutch, and even Hindi and Hungarian, among the many languages into which the plays have been translated. This side-by-side reading should go a long way toward alleviating the anxiety that ESL readers bring to Shakespeare, while at the same time offering a valuable tool for analysis at the micro-level. What are the nuances of “to be or not to be” when it becomes “Sein oder Nichtsein” (the verbs transformed into nouns)? Attention to small details may well lead to

a wider perception of cultural difference. Students might be asked, as their research project, to investigate the significance of "Shakespeare" in their own country (on the model, but hardly to extent, of Alexander Huang's Chinese *Shakespeare*). Foregrounding and at the same time alleviating the problem of language is one way of making for a more user-friendly Shakespeare. Another is to include international productions of the plays on film. A good resource for this is to be found at [HTTP://GLOBALSHAKESPEARES.MIT.EDU](http://GLOBALSHAKESPEARES.MIT.EDU). Furthermore, in order to allow for a careful reading of the plays, the list will be limited (as I see it now) to: *Romeo and Juliet*, *Macbeth*, *Hamlet*, *Lear*, and *The Tempest*.

LIT-SHU 245

### **Literature and Science in the Renaissance**

The course—which might otherwise be called science and the imagination, or the imagination of science—has a center and a periphery. At its core, the "scientific revolution," extends roughly from the 1540's (the decade of Copernicus's *De revolutionibus orbium coelestium*) to the 1680's (the decade of Newton's *Principia*). This is the narrative that describes the movement of what Donne calls, with much trepidation, the "new philosophy, the shift from the Ptolemaic view of a geocentric world to our modern understanding of the solar system. A central document in that history and on our list is Galileo's *Starry Messenger* of 1610. But the same period also witnesses advances in mathematics (including the invention of perspective), physiology and anatomy (including the influential work of Vesalius), urban planning (the rationalized "ideal city") and much more—all underpinned by a neo-skeptical turn in philosophy revealing deeper shifts in the concept of knowledge and of the empirical methods by which it is to be produced. Thus the works in the history of science by Kuhn, Shapin, and Popkin. Taking in this broader view, we will be interested in Bacon's *The New Atlantis*, which we will read both as a document in the history of the scientific method and, like the *Utopia* of Thomas More (which Bacon has at hand as he writes), and as a new kind of utopian fiction—"science fiction"—that we will follow into the works of Neville, Godwin, Wilkins, Cavendish, and Shakespeare. We will read Machiavelli's *The Prince* as an inaugural document in what has come to be called political science, and a document entailing a revisionary account of history, fortune, and human agency. We will begin and end with Donne, including along with his "Songs and Sonnets" a careful reading of the "First Anniversary," an "Anatomy of the World" which expands its meditation on the death of its nominal subject (the deceased 14-year-old daughter of a would-be patron) to consider the death of the world order as it was known, and the advent of a new world with "all coherence gone." Referencing the following books: Thomas More, *Utopia* (Norton Critical ed., edited R.M. Adams) Niccolò Machiavelli, *The Prince* (Norton Critical ed., edited R.M. Adams) Three Early Modern Utopias: Thomas More: *Utopia* / Francis Bacon: *New Atlantis* / Henry Neville: *The Isle of Pines* (Oxford World's Classics, ed. Susan Bruce Francis Godwin, *The Man in the Moone* (Broadview, ed. Poole) Shakespeare *The Tempest* (Norton Critical ed.) Paper Bodies: A Margaret Cavendish Reader (Broadview, ed. Bowerbank and Mendelson) Thomas S. Kuhn, *The Copernican Revolution* (Harvard) Steven Shapin, *The Scientific Revolution* (Chicago) Richard Popkin, *The History of Skepticism: From Erasmus to Spinoza* (California) John Donne, *Complete English Poems* (Penguin, ed. Smith) Galileo, *Dialogue Concerning the two Chief World Systems* (Modern Library paperback) John Wilkins, *Discovery of a World in the Moon*.

LIT-SHU 246

### **Introduction to Gender and Feminism in African Literature**

This course introduces students to gender, sexuality and feminism in African literatures. It examines literary expressions of women's social, economic and spiritual experiences in both local and transnational contexts in Africa. Through close readings and literary analyses of a geographically and linguistically diverse selection of established and emergent African fiction, students comparatively analyze literary examples of women's experiences. These experiences are read in light of theoretical concepts on feminism and gender in Africa to understand the intersection of women's experiences with such broader historical and geographical phenomena as imperialism or colonialism and postcolonialism, transnationalism and globalization.

PHIL-SHU 70

### **Logic**

This is an introductory course in formal logic. No prior knowledge of logic, mathematics or philosophy will be assumed. We will study a number of logical systems, and learn some methods for producing derivations and determining validity in these systems. We will also learn how to translate sentences and arguments from ordinary language into these systems, and examine some applications of logic to traditional philosophical problems. Prerequisite: None.

PHIL-SHU 90

### **Philosophy of Science**

This is a survey course in general philosophy of science. Our topics include: Is scientific knowledge different from other forms of knowledge? Should the history of science be seen as an ever-increasing advance of knowledge? Given that most scientific theories have turned out to be false, are we justified in believing that our current theories are true? What are scientific explanations, and what makes an explanation better than another? Do the laws of nature govern the world or simply encapsulate some interesting patterns in the world? What is the relationship between more and less fundamental scientific theories? We will examine these questions through readings drawn from both the history and philosophy of science. Prerequisite: None.

PHIL-SHU 103

### **Topics in Metaphysics and Epistemology**

This course will cover selected topics in the metaphysics and epistemology of mathematics and modality, including but not limited to: set theory and infinity; the analytic, the a priori and the necessary; possible worlds and

counterfactuals.

PHIL-SHU 150 (formerly HUMN- SHU 203)

**Central Problems in Philosophy**

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Albert: This course is an introduction to the problems and methods of contemporary philosophy. Topics may include: 1. What is the relationship between mind and body? 2. Can belief in the existence of the external world be justified? 3. Are there any good arguments for the existence of God? 4. Can we act freely if everything that we do is determined by laws of nature? 5. Is there a theory of how we ought to live? Prerequisite: None.

# Interactive Media Arts

## INTM-SHU 101

### Interaction Lab

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In this foundation course students will be asked to think beyond the conventional forms of human computer interaction (i.e. the keyboard and mouse) to develop interfaces that consider the entire human body, the body's capacity for gesture, as well as the relationship between the body and its environment. Students will learn the fundamentals of electronics and programming as they build projects using the Arduino microcontroller platform. Arduino is a small computer based on open source hardware and software. When used in conjunction with various sensors and actuators, Arduino is capable of gathering information about and acting upon the physical world. In addition to these physical computing techniques, students will also learn to harness the methods of traditional computation. The fundamentals of programming: variables, conditionals, iteration, functions, arrays and objects, will be explored using the Processing programming language. Processing has a simplified syntax and approachable computer graphics programming model, making it an ideal platform for first-time programmers. Students will gain a deeper appreciation of the expressive possibilities of computation as they learn to author their own software, and not simply use that which has been provided to them. Additional topics will include algorithmic drawing and animation techniques, digital modeling and fabrication, data exchange, manipulation, and presentation, as well as control of images, audio and video, including computer vision techniques. Structured weekly exercises are aimed at building specific skills, however students are free to pursue their own diverse interests in their midterm and final projects.

Elective Category: Electronics & Physical Computing if counted as an elective.

Prerequisite: None

## INTM-SHU 110

### Application Lab

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In this foundation course students will be exposed to current trends and provocative topics at the intersection of interactive media and business, and they will be asked to produce project-based responses to the challenges posed to them by guest speakers, taken from readings, and as a result of critical dialog. Throughout the semester students will be introduced to emerging business models and trends including open source. User experience design, user testing, agile development methods, source code control, as well as computer programming fundamentals will be the focus of the first third of the semester. HTML, CSS, and JavaScript (including: variables, conditionals, iteration, functions, arrays, objects and data structures) will be introduced then. Rapid mobile application development frameworks will be the topic of the middle third, and application programming interfaces (APIs), microcontrollers, sensors, and actuators, as well as Internet of Things (IoT) platforms, will be the vehicles for student exploration in the final third. The role and value of collaboration will be better appreciated as students learn to face the challenges and benefits of group work. Students will be expected to produce a series of iterative projects that establish their newfound understanding of the topics introduced to them. This is a required course for the IMB Major.

Elective Category: Business of Emerging Media if counted as an elective.

Prerequisite: None

## INTM-SHU 120

### Communications Lab

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In this foundation course, designed to provide students with a framework to effectively communicate through digital means, students will explore the possibilities of digital media by successively producing projects that make use of digital images, audio, video, and the Web. Students learn in a laboratory context of hands-on experimentation, and principles of interpersonal communications, media theory, and human factors will be introduced in readings and investigated through discussion. Students will learn the principles of digital imaging, recording and editing audio and video, and the basics of fundamental web languages HTML, CSS and JavaScript, in order to establish a diverse digital toolkit. Both traditional and experimental outputs, including online and interactive media platforms, will be explored. Weekly assignments, group and independent projects, as well as project reports and documentation will be assigned in each of the core areas of study.

Elective Category: New Media & Entertainment if counted as an elective.

Prerequisite: None

## INTM-SHU 190

### Collective Methods

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Humans have an inherent impulse to collaborate and share. In this course, designed for NYU Shanghai Interactive Media Arts majors studying abroad, students will be asked to integrate a variety of collaborative processes and methodologies for sharing into their work. First, by establishing a coauthored or user-generated storytelling environment for the collection and distribution of narratives, either fiction or nonfiction. Next, students will learn to programmatically acquire and aggregate data from a variety of online sources. Official APIs for popular social media outlets will be introduced, and standard methods for data parsing as well as unofficial data scraping techniques will both be employed to create online mashups featuring content from multiple sources. Students will then propose and execute an open content / open source final project that synthesizes the concepts and techniques explored within this course. Readings and discussions will further involve students in debate over related issues, including intellectual property and open data. Students are encouraged to incorporate site specific elements into their projects, and students and their collaborators will be free to use text, audio, video, animation, and transmedia approaches within their work.

Note: This course is an online course. Registration for this course is limited to IMA Majors studying at the Global Sites.

Elective Category: New Media & Entertainment



INTM-SHU 214

### **User Experience Design**

User Experience Design (UXD) is a design process focused on producing interactive products and systems that provide a high level of satisfaction to users through concern for human factors such as ergonomics, accessibility, and usability. User experiences unfold over time, and can be crafted to an extent, however a user's will and other unpredictable circumstances together shape the final outcome. Students in this class will critique existing projects, products, and services, and learn to create more successful user experiences based on real-world development processes, in addition to the application of industry standard techniques and tools. Students will create design concepts and mockups, develop user personas, wireframes, user experience sketches and flows, and ultimately video prototypes. While UXD principles are most often used to create commercial products such as hardware devices and software applications, the concepts and skills prove equally useful in the development of participatory art and performance projects.

Elective Category: Art & Design

INTM-SHU 221

### **Creating Immersive Worlds**

This introductory course will focus on building virtual worlds and understanding what makes them compelling experiences for others. Throughout the course, students will become familiar with critical concepts such as play testing and object-oriented programming in addition to developing proficiency in software tools such as Unity (3D game engine), Blender (3D modelling), Adobe Photoshop (texturing) and GitHub (source code control). Students will work in collaborative teams to create interactive virtual worlds.

Elective Category: New Media & Entertainment

Prerequisite or Corequisite: Application Lab, Communications Lab or Interaction Lab

INTM-SHU 230

### **Nature of Code**

Can we capture the unpredictable evolutionary and emergent properties of nature in software? Can understanding the mathematical principles behind our physical world help us to create digital worlds? This class focuses on the programming strategies and techniques behind computer simulations of natural systems. We explore topics ranging from basic mathematics and physics concepts to more advanced simulations of complex systems. Subjects covered include physics simulation, trigonometry, fractals, cellular automata, self-organization, and genetic algorithms. Examples are demonstrated in native JavaScript using p5.js. Much of the class time will be dedicated to in-class exercises and self-study as the course is available online through a video series and textbook.

Category: Computation & Data

Prerequisite: Application Lab, Communications Lab or Interaction Lab

INTM-SHU 235

### **Topics in Art & Design**

*Check Albert for various relevant topics each semester.*

INTM-SHU 235A

### **Topics in Art & Design: Exhibition Next**

What is an exhibition in a museum of today and how should it be experienced? What is its role in society? How does it engage the audience of tomorrow? This class will explore how emerging technologies can be applied to museum and exhibition design to enhance a museum visitors' experience. Class discussions will include topics and themes such as curatorial practices, public space, content and form, audience and environment, meaningful interfaces and interactive experiences in a museum context. The course will begin with visiting and immersing students in various museums, art spaces, and exhibitions in Shanghai. Students will explore and research on the functions of a museum as an institution to public audiences. Through museum visits, students will write observations of each trip based on their own experience to design a "better" museum or exhibition as their final project. Students will work in a team or individually to design their own exhibition through the design process of submitting a museum proposal, building a demonstrated diorama and writing a museum manifesto, etc. By the end of the course, students will install and present their work in various mediums.

Elective Category: Art & Design

Prerequisite: None.

INTM-SHU 237

### **Design Thinking**

Design thinking is a novel approach to problem-solving you can apply to any discipline. It gives you the superpower to rapidly develop concepts, products, services, strategies, and systems that are both innovative and responsive to actual user needs and desires. This course takes an up-close and personal look at the origins and spread of design thinking, helps you understand the strengths and weakness of the method, and shows you how to use it to solve anything creatively. At the heart of design thinking is collaboration. Get ready to learn from your friends, embrace the power of storytelling, and make things that matter.

Elective Category: Art & Design

Prerequisite: None

INTM-SHU 238

**Toy Design and Prototyping**

The emphasis of this class is on designing toys for play and entertainment, however toys are not only for kids. Toys are part of our culture, and an important medium to develop essential skills like creativity, problem-solving and socialization. They can also be a great contribution in education, medicine, and business and can improve the quality of life for children and adults alike. Students will be introduced to the essential concepts in designing toys and they will create their own by utilizing hand-making craft skills and new technologies. This course will equip students with a basic knowledge about various design topics, including: brainstorming; sketching; graphic design; concept development; mechanisms; 3D modeling; rendering and rapid prototyping. This is a hands on class, and students are required to bring their imagination in addition to a willingness to experiment and explore creative solutions for class assignments.  
Elective Category: Art & Design  
Prerequisite or Corequisite: Interaction Lab

INTM-SHU 239

**Digital Fabrication**

Digital Fabrication is the process of using design or modeling software to generate digital files which can then be physically produced through a variety of methods, including laser cutting, 3D printing and computer numeric control (CNC). The ability to fabricate directly from our computers or design files used to be an exotic and expensive option not widely available, but recent changes within this field have brought these capabilities to within our reach. In this class students will learn how to design and model for and to operate fabrication machines. Emphasis will be put on designing functional parts that can fit into a larger project or support other components as well as being successful on a conceptual and aesthetic level. In this class students will discover methods to design and model using computer aided design (CAD) software. We will then utilize computer aided manufacturing (CAM) software to generate instructions that various machines can follow to fabricate our designs. We will also look at methods for 3D scanning, data manipulation and conversion, mold making, as well as printed circuit board (PCB) fabrication.  
Elective Category: Art & Design  
Prerequisite or Corequisite: Application Lab, Communications Lab or Interaction Lab

INTM-SHU 245

**Topics in Electronics & Physical Computing (2 credits)**

Check Albert for various relevant topics each semester.

INTM-SHU 246

**Topics in Electronics & Physical Computing (4 credits)**

Check Albert for various relevant topics each semester.

INTM-SHU 248

**Introduction to Assistive Technology**

Assistive technology is a term that includes a wide variety of technologies for people with disabilities. This two-point survey course is designed to provide students with an overview of the field of assistive technology. Field trips, readings, and guest speakers will provide students with an understanding of current research and development as well as processes used in determining appropriate technologies. Weekly assignments and a final research project.  
Elective Category: Art & Design. Prerequisite: None

INTM-SHU 252

**The Minimum Viable Product**

Increasing possibilities brought about by emerging forms of technology and decreasing costs of connecting people to things have not only enabled innovative human-centered design, but also opened the door to new business models and products. Experimentation and calculated risk taking are keys to successfully harnessing the possibilities of today's most cutting-edge technologies and innovative methods to first build, understand and then redefine how humans and products interact. In this 7 week course, student 'co-founders' will conceive of and produce a new media, physical or technology product designed to delight their customers while also allowing them to accelerate and validate a business model. Students will 'get out of the classroom' and put these products into potential customers' hands. The course will touch upon topics such as how to design a minimum viable product, design a business model, talk and work with customers, and develop a product community.  
Elective Category: Business of Emerging Media  
Prerequisite: None

INTM-SHU 255

**Topics in Business of Emerging Media**

Check Albert for various relevant topics each semester.

INTM-SHU 255-002

**Programmable Trust: Blockchains.**

INTM-SHU 260

**Topics in Electronics & Physical Computing.**

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Check Albert for various relevant topics each semester.

INTM-SHU 260

**Topics in Electronics & Physical Computing: Working With Electrons**

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This course focuses on using existing knowledge about electronics in order to design and fabricate circuits. It will cover technology that is commonly used in consumer electronic. We will have guest lecturers who will bring insights about the local ecosystem in China and that will share the most current techniques, like the flexible printed circuit boards used in wearable devices. Students will first experiment with analog signals, learning from them. In a second section of the course, they will utilize gates to make their own digital logic. The last part of the course will go over the design, simulation and prototyping of circuits. Participants will have by the end of the course all the resources to create their own original circuit in their final project. Their work will be assessed by their documentation blog, online quizzes and a final project. Students will acquire a working knowledge of components like capacitors, diodes, power supplies, transistors and logical gates. At the same time they will become familiar with tools like hot air soldering equipment, oscilloscopes, function generators and techniques used to simulate, design and manufacture circuits.

Category: Electronics & Physical Computing

Prerequisite or Corequisite: Interaction Lab

INTM-SHU 265

**Topics in Digital Humanities & Social Sciences: Acoustic Ethnography of the Yangtze River Delta**

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We live in a world immersed in sound yet we rarely attend to how sound can reflect our social structure or reveal cultural meaning. This course introduces students to acoustic ethnography, soundscape studies and narrative, non-narrative audio storytelling. We will gather and analyze the acoustic environment of China, using them to create ethnography through text and sound. Ethnography (literally, "culture-writing") is both the act of gathering data about culture through observation and interviews as well as the practice of writing analytically about cultural difference. Visual ethnography incorporates the analysis of visual and material aspects of our social environment into creative, multimedia rich projects. With an ethnographic approach to sound, we will document the rich tapestry of sounds around us, in the context of the Yangtze River Delta region and think about how this conveys China's culture, society and history. Through lectures, discussion, readings, listening assignments, field studies and projects, we will re-learn how to listen, observe and record the sounds in our environment. We will study Chinese sound art and Chinese cultural productions in music, film, television and multimedia installation. We will contextualize Chinese sound art against major theoretical approaches to sound including archives and preservation, form vs. content, and social studies of science. Students will work collaboratively or individually on a final project that combines sound recording and production, to create an ethnographic analysis of an aspect of social and cultural life in the Yangtze River Delta region. Students will gain experience in gathering ethnographic data and transform it into an analytical or creative project integrating, sound art and text. Prior knowledge to sound editing and Chinese language is not required.

Category: Digital Humanities & Social Sciences

Prerequisite: None

INTM-SHU 280

**Topics in New Media & Entertainment.**

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Check Albert for various relevant topics each semester.

INTM-SHU 280C

**Topics in New Media & Entertainment: VR/AR Fundamentals: A Practical Guide to Big Ideas**

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Virtual Reality and Augmented Reality represent visions of "immersion" through the use of various channels such as visual, audio, haptic, and even smell and taste (and maybe mind). These visions are not new, but new technologies have made it possible to produce experiences unlike anything before, particularly through the use of headsets, spatial audio, touch sensors, and custom "location-based" installations. These new technologies are becoming small, powerful, and inexpensive, and as a result we are witnessing the birth of a powerful new medium, new artform, and new industry - all very quickly. The speed of VR and AR growth has created both opportunity and confusion. "VR / AR Fundamentals" takes a long, deep perspectives. We will overview such basic elements resolution and fidelity; spatiality and immersion; extra senses such as touch, smell, taste (and even mind); input and interactivity; and live and social. We'll look at distinctions such as cinema versus games, movies versus models, public versus personal, real world versus fantasy worlds, linear versus interactive, and narrative versus ambient. These elements and distinctions will be presented partially as technical but in an understandable way for general liberal arts students, and will rely heavily on experiencing content and keeping up with current events. In addition to "big ideas," VR / AR Fundamentals aims to contribute to "a practical guide" by collectively producing a series of timely and relevant "studies," all short, entertaining, and useful to others exploring the world of VR / AR.

Elective Category: New Media & Entertainment

Prerequisite: None

INTM-SHU 280D

**Topics in New Media & Entertainment: Realtime Audiovisual Performance Systems (RAPS)**

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From the history of visual music and abstract film to the contemporary notion of live cinema, this course will be an exploration of the synesthetic relationship between sound and visuals in a realtime performance setting. Dating back as far as the 18th century, systems have been invented to produce images alongside music linking the two through formalized arrangements. Current media technologies make developing such systems both more

approachable and more expansive in their scope. Through readings, viewings, and case studies students will gain an understanding of the history and theory of live audiovisuals. During the course students will team up to develop and master a realtime audiovisual system of their own invention. The class will culminate in a show in which they will present their work through a live performance.

Elective Category: New Media & Entertainment

Prerequisite: None

INTM-SHU 280E

#### **Topics in New Media & Entertainment: Aesthetics for New Realities**

A workshop course in which teams of students will develop new works by exploring how new forms of media such as virtual, augmented and mixed reality are platforms for new aesthetic possibilities. Digital cinema, computer games, virtual reality and augmented reality share many common methods in the production of their content, with default assumptions about how they differ from each other. Approaching this as a range of expressive possibility gives a basis for more original and thoughtful approaches, including those that are less defined by existing categories as well as those that are more innovative within categorical norms. New ways of making cinema should lead to new kinds of expressions, while the emergence of virtual reality needs aesthetics that evoke more of its possibilities than the recapitulation of cinematic story-telling or video game interactivity. This class will use an iterative process of ideation and prototyping as it engages and develops the methods of narrative, interactivity, immersion, experience, imagination, spatiality and temporality. Readings and lectures will provide context with the history of art, literature, music.

Elective Category: New Media & Entertainment

Prereq: App Lab, Comm Lab, Inter Lab, Creating Immersive Worlds or AR/VR Fundamentals

INTM-SHU 283

#### **Locative Media**

With the rise of mobile computing platforms such as smart phones and tablets, location has become a key element in the production and consumption of media. In this online course, designed for NYU Shanghai Interactive Media Arts majors studying abroad, students will be encouraged to explore their unique study away site, as well as to consume, research, critique, and create location-based media for mobile devices. Students will be introduced to GPS (Global Positioning System) technologies through activities such as geocaching and GPS drawing. We will investigate geocoding, geotagging, and geofencing through the application of JavaScript mapping platforms, and through CartoDB and Google Maps. Students will then explore an emerging technology known as Bluetooth Beacons, which can be used to create custom positioning systems and to facilitate location awareness in mobile devices. Students will then produce as a final project, a game that engages participants in a location or locations physically or technologically. Note: This is an online course featuring both synchronous and asynchronous learning opportunities.

Note: This course is an online course. Registration for this course is limited to IMA Majors studying at the Global Sites.

Elective Category: New Media & Entertainment

Prerequisite: Communications Lab.

INTM-SHU 284

#### **Digital Sculpting for Facial Animation**

This 14-week course breaks down into 4 stages : 1. basic topology of head model (student's profile photos as reference), 2. high-poly sculpting and projection texturing, 3. blend shapes animation, 4. final project. In the final project, students get to choose either lip-sync animation or conceptual piece utilizing the created head models. The course covers digital modelling / sculpting techniques including polygonal modelling, digital sculpting and blend-shape facial animation. Overview of digital editing / compositing and sound design will also be introduced to assist with students' final project at the end of the semester. Category: New Media & Entertainment.

Elective Category: New Media & Entertainment

Prerequisite: None

INTM-SHU 285

#### **Seminar Topics**

Check Albert for various relevant topics each semester.

INTM-SHU 287

#### **NIME: New Interfaces in Musical Expression**

This course will focus on designing, creating and performing with musical instruments that utilize recent discoveries in interactive media in order to explore the limits of human expression. Over the semester, students are asked to research examples of contemporary work by creators of musical interfaces and discuss a wide range of issues facing technology in the performing arts. Readings and case studies will provide background for class discussions on the theory and practice of designing gestural controllers for musical performance. Students will invent and prototype a complete system encompassing musical control, mapping input to sound, and the creation of sound itself.

Interaction Lab is a prerequisite, but prior performing experience is not required. The performance discipline, being an inherently collaborative arena, places heavy emphasis on teamwork. An open mind to work with other artists, technologists and creative leaders is a must. The class will culminate in a performance where students will play their instruments live.

Elective Category: New Media & Entertainment

Prerequisite: Interaction Lab

INTM-SHU 288  
**Kinetic Interfaces**

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Students in this course will use computer vision and motion tracking tools and techniques to create kinetic interfaces that exploit the body's capacity for movement to control software and hardware systems. The applicability of kinetic interfaces to practical as well as creative applications will be investigated as students are challenged to design their own solutions. Webcams, the Leap Motion Controller and the Microsoft Kinect will all be considered as input devices. Students will be introduced to the topics of pixel manipulation, as well as face, hand, blob and skeletal tracking. And Projection mapping, a technique that turns surfaces within an environment into dynamic display surfaces, will be explored as an output method. New Category: Physical Computing & Experimental Interfaces.

Elective Category: Computation & Data

Prerequisite: Application Lab, Communications Lab or Interaction Lab

INTM-SHU 290A  
**Interactive Media Arts Internship**

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INTM-SHU 291  
**Solar Contraptions**

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Solar power is on track to be a major contributor to renewable energy systems of the future. This class will explore how small photovoltaic cells can provide energy directly at point of use without the expense of an electricity grid and with the added benefit of free and non-polluting energy. We will examine how photovoltaic cells can be incorporated into interactive art, kinetic artwork and as a power source for other projects. In particular we will look at the science behind photovoltaic panels, calculating power requirements, and the quantify the energy available from the sun. Among other things, students will build solar powered circuits, BEAM robotics (Biology, Electronics, Aesthetics and Mechanics) and design moving solar powered mechanisms. Category: New Media & Entertainment.

Elective Category: Electronics & Physical Computing

Prerequisite: Interaction Lab

INTM-SHU 295  
**Seminar Topics**

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*Check Albert for various relevant topics each semester.*

INTM-SHU 295-001  
**Digital Media & Culture**

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Born Digital, Growing Up Digital, Teaching Digital Natives, Understanding the Digital Generation ... these are just some of the titles in a veritable explosion of guidebooks on how thinking, learning, and doing have changed in a world transformed by digital, networked, and social media. In this course, we take a close look at the theories and prophecies on the "Net Gen" and "iGen," and we think critically, contextually, and historically about the ways in which new media forms and practices shape identity, community, sociality, creativity, privacy, civic engagement, and everyday life.

Category: Seminar

Prerequisite: None

INTM-SHU 400  
**Capstone Studio - Interactive Media Arts**

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The IMA Capstone Studio course asks students to develop three components: 1) an interactive project and documentation, 2) a research paper, and 3) a personal portfolio. For the interactive project, students are asked to produce a working proof-of-concept that illustrates both their unique interests as well as evidence of competency within the field of interactive media production. Students are encouraged to develop their project around a theme they have previously explored in their work. Projects will be presented and critiqued repeatedly throughout the capstone process to peers, faculty, and industry professionals. A final presentation of the interactive project will be delivered in week 10. The research paper will be a 4000-5000 word essay focused on some aspect of the interactive project. Culture, theory, philosophy, or history, the project context, and / or production methods can provide possible topics for research. For example, students may write about their project's reception by a set of users specifically, or by users who are part of a larger culture, society, or market. It is important that students think beyond the project itself though, situating it in a broader context accessible through research. Students will also be guided in the production of an online portfolio to showcase their work and accomplishments to the outside world. Graduates will be evaluated by their portfolio when applying for jobs, graduate school, artist residencies, grants, and the like. Portfolios will be tailored to the demands of each student's future goals and target audience.

New Category: Studio

Old Categories: Studio

Prerequisite: Student must be a senior

CRWR-SHU 245  
**Speculative Fictions**

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Science fiction, fantasy, horror, weird fiction, alternative histories—all fall under the heading of speculative fiction. This class has three basic components: 1) reading and discussing a focused set of works of speculative fiction (and watching a few films), framed by a set of critical texts; 2) research; and 3) frequent writing exercises and assignments, culminating in a semester project.

Students will read and discuss to understand better how speculative fiction works, both in terms of basic narrative techniques common to all fiction as well as with regard to challenges, such as worldbuilding, that may be considered unique to speculative fiction. Students will conduct research necessary to both better understand those texts and their authors' techniques and thinking, and to do work necessary to support their own creative experiments in writing their own speculative fiction and/or critical work (research is a big part of the successful speculative fiction writer's practice). All students will begin their writing process by generating a range of story ideas by way of writing experiments and assignments before committing to a semester project. Once students have settled their semester projects, they will conduct research alongside the drafting of scenes for their final project, with the research helping them understand and begin to build a speculative world. Students will write a focused research paper as well as a creative work — most likely a short story, perhaps an episode of a larger envisioned project — informed and shaped by the research they conduct. Students are welcome to work to incorporate the work they do in this class into IMA or creative writing projects that exceed the scope of this class (so, for instance, IMA students might work to integrate their work for this class into their interactive projects).

Elective Category: Digital Humanities & Social Sciences

Prerequisite: None

GCHN-SHU 210

### **The Cultivated City**

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This class examines the religious and philosophical idea and practices of cultivation. It does so by investigating a range of material, including the urban garden traditions of the Jiangnan region, the Buddhascapes of the modern city, Taoist inner alchemy and new Confucian thought. This conceptual analysis is then used as a basis for researching the urban ecology of Shanghai, both as a past and future city.

Cultivated City aims to interrogate the nature-culture split. The idea that nature (including human nature) is improved or enhanced by cultivation challenges an entrenched dichotomy, which views nature in its ideal state as wild and unspoilt, and existing in opposition to 'cultural construction'. Instead, the class explores novel ways of integrating the 'natural' and 'urban' environment.

Cultivated City combines theory with practice. It uses the tools of interactive media (audio, video and cartographic technologies) to research, map and narrativize the ways in which architects, designers, artists and intellectuals engage with the traditional art and practices of cultivation in order to imagine and recreate the future metropolis.

Category: Seminar

Prerequisite: None

## MATH-SHU 9

### Precalculus

This course is designed as a preparation for calculus, including study of basic properties of polynomials, rational functions, exponential and logarithmic functions, and trigonometric functions. Systems of linear equations are also covered.

Prerequisite: Placement via NYUSH mathematics placement exam.

## MATH-SHU 10

### Quantitative Reasoning: Great Ideas in Mathematics

This one-semester course serves as an introduction to great ideas in mathematics. During the course we will examine a variety of topics chosen from the following broad categories. 1) A survey of pure mathematics: What do mathematicians do and what questions inspire them? 2) Great works: What are some of the historically big ideas in the field? Who were the mathematicians that came up with them? 3) Mathematics as a reflection of the world we live in: How does our understanding of the natural world affect mathematics (and vice versa)? 4) Computations, proofs, and mathematical reasoning: Quantitative skills are crucial for dealing with the sheer amount of information available in modern society. 5) Mathematics as a liberal art: Historically, some of the greatest mathematicians have also been poets, artists, and philosophers. How is mathematics a natural result of humanity's interest in the nature of truth, beauty, and understanding? Why is math a liberal art?

Prerequisite: None. For students in Humanities.

## MATH-SHU 20 (formerly 130)

### Statistics for the Social and Behavioral Sciences

This course introduces students to the use of statistical methods in social and behavioral science research. Topics include: descriptive statistics; introduction to probability; sampling; statistical inference concerning means, standard deviations, and proportions; correlation; analysis of variance; linear regression, including multiple regression analysis. Applications to empirical situations in the social and behavioral sciences are an integral part of the course.

Prerequisite: None.

## MATH-SHU 120 (cross-listed with CSCI-SHU 2314)

### Discrete Mathematics

This course is an introduction to discrete mathematics, emphasizing proof and abstraction, as well as applications to the computational sciences. Topics include sets, relations, and functions, graphs and trees, algorithms, proof techniques, order of magnitude analysis, Boolean algebra and combinatorial circuits, formal logic and languages, automata, and combinatorics, probability, and statistics.

Prerequisite: Grade of C or better in MATH-SHU 121 (Calculus).

## MATH-SHU 121

### Calculus

This course presents the foundations of calculus for functions of a single variable. Topics addressed include limits, continuity, rules of differentiation, approximation, antiderivatives, indefinite and definite integrals, the fundamental theorem of calculus, integration techniques, and improper integrals.

Prerequisite: Placement via NYU SH mathematics placement exam or a grade of C or better in MATH-SHU 9 (Precalculus).

## MATH-SHU 123

### Multivariable Calculus

This course is a continuation of calculus, focusing on sequences, series, and the calculus of functions of several variables. The first part is focused on real sequences and series, power series, Taylor expansions and Landau's notation. The second part concerns functions of several variables, including continuity, differentiation, gradient, extrema, Lagrange multipliers, multiple integrals, and an introduction to vector calculus.

Prerequisite: Grade of C or better in MATH-SHU 121 (Calculus).

## MATH-SHU 140

### Linear Algebra

This first course in linear algebra introduces the main ideas of the field, which are critically useful throughout the sciences, for example in advanced calculus, probability, differential equations, or in computer science, physics, chemistry, economics, finance, data science... Topics covered include systems of linear equations, vectors, linear transformations, matrices and their determinants, vector spaces, basis and dimension, eigenvectors and eigenvalues, diagonalization. Linear algebra is a prerequisite to most of the mathematics courses. Prerequisite: Placement via NYU SH mathematics placement exam.

## MATH-SHU 141

### Honors Linear Algebra I

This is the first semester of a 2-semester sequence in linear algebra for advanced mathematics majors. This course starts with introducing the basic practical knowledge of linear algebra, that is operations on matrices and techniques in order to solve a system of linear equations. These notions are covered on both practical and theoretical levels. After this, the focus is on operators and an introduction to spectral theory. The following topics are studied: vector spaces, linear independence, bases, dimension, determinants, characteristic polynomials, Cayley-

Hamilton theorem, as well as eigenvalues and eigenvectors. The goal of this course is, on one hand, to provide the practical tools for application in various disciplines and courses such as Differential Equations, Analysis, or Probability and, on the other hand, to acquire the theoretical knowledge necessary to properly write mathematical proofs.

Prerequisite: Placement on NYU SH mathematics placement exam. This course can replace MATH-SHU 140 (Linear algebra) as a prerequisite.

MATH-SHU 142

### **Honors Linear Algebra II**

This is the follow-up course of Honors Linear Algebra I, continuing the study of operators on finite-dimensional vector spaces. Topics covered include eigenspaces, multiplicities of eigenvalues, diagonalization, inner product spaces, orthogonality, the Gram-Schmidt procedure, projections, minimization, Riesz representation theorem, adjoint operators, self-adjoint operators, normal operators, advanced spectral theory, isometries, singular value decomposition, bilinear forms, nilpotent operators, Jordan decomposition, minimal polynomials.

Prerequisite: Grade of C or better in MATH-SHU 141 (Honors Linear Algebra I).

MATH-SHU 160

### **Networks and Dynamics**

The preliminary goal of this course is to study how complex systems function and evolve. Today's world requires us to understand how the interactions between individual units give rise to a collective behavior, such as the neural network underlying our brain functions, social networks like Facebook or WeChat, or the spreading of a disease. The language for providing a scientific understanding of such systems is the mathematics of network theory and dynamical systems, which relies on linear algebra and differential equations. These topics are integrated in this unifying course that introduce mathematical models and methods to analyze them. A knowledge of a scientific computing software will be useful but not required.

Prerequisite: Grade of C or better in MATH-SHU 121 (Calculus) and 140 (Linear Algebra).

MATH-SHU 201

### **Honors Calculus**

This is a rigorous course in single-variable calculus, providing preparation for advanced courses in analysis. It emphasizes proofs and therefore also provides a strong formation to logical thinking and argumentation, which are valuable in other disciplines. Topics covered include basic logic and set theory, functions, sequences, series, limits of functions, continuity, derivatives, and Taylor expansions.

Prerequisite: Placement via NYU SH mathematics placement exam. This course can replace MATH-SHU 121 (Calculus) as a prerequisite.

MATH-SHU 233

### **Theory of Probability**

This course is an introduction for mathematics majors to the mathematical treatment of random phenomena occurring in the natural, physical, and social sciences. Topics covered include axioms of mathematical probability, combinatorial analysis, the binomial distribution, Poisson and normal approximations, random variables, probability distributions, generating functions, and Markov chains and their applications.

Prerequisite: Grade of C or better in MATH-SHU 123 (Multivariable Calculus) and 140 (Linear Algebra). Not open to students who have taken MATH-SHU 235 (Probability and Statistics).

MATH-SHU 234

### **Mathematics of Statistics and Data Science Part I**

This course is the first part of an introduction to the mathematical tools of modern statistical analysis and of data-science. This class asks for a good prior understanding of probability theory, of calculus and of linear algebra. In this first part, we will cover the core concepts of statistics, both from the Bayesian and the classical or frequentist point of views. We will use the book by Larry Wasserman "All of Statistics". We will assume that Part I on Probability is known (Chapters 1 to 5), and cover Part II on Statistical Inference, and some of Part III on Statistical Models and Methods, i.e. the Bootstrap, Parametric Inference, Bayesian inference, Hypothesis testing, Statistical Decision Theory, Linear and Logistic Regression, and possibly a light introduction to Graphical Models and Classification. This class should be followed by a second class in the Spring 2019 centered on some of the mathematical questions raised by the high-dimensional aspects of statistics and data science, and in particular by machine learning.

Prerequisite: Grade of C or better in MATH-SHU 121 (Calculus), 140 (Linear Algebra) and 233 (Theory of Probability).

MATH-SHU 235 (formerly 150)

### **Probability and Statistics**

This course comprises a combination of the theory of probability with techniques of modern statistical analysis. It is designed to acquaint the student with both probability and statistics in the context of their applications to the sciences. In probability: mathematical treatment of chance; combinatorics; binomial, Poisson, and Gaussian distributions; law of large numbers and the normal distribution; application to coin-tossing, radioactive decay, and so on. In statistics: sampling; normal and other useful distributions; testing of hypotheses; confidence intervals; correlation and regression; and applications to scientific, industrial, and financial data. Prerequisite: Grade of C or better in MATH-SHU 121 (Calculus). Not open to students who have taken MATH-SHU 233 (Theory of Probability).



MATH-SHU 245

### **Mathematical Choice Theory**

This course is a mathematical examination of the main ideas of decision theory, including game, auction, and social choice theory. Topics covered include strategic and extensive form games, existence and properties of equilibria (Nash, Bayesian, perfect, sequential, correlated), the expected utility maximization theorem, the core, auction and mechanism design under independent and interdependent values, the revenue equivalence theorem, voting models, Arrow's impossibility theorem, the Gibbard-Satterthwaite theorem, and implementation theory. We also discuss current applications of these ideas to bargaining agreements, auction design, and voting systems. Prerequisite: Grade of C or better in MATH-SHU 121 (Calculus).

MATH-SHU 250

### **Mathematics of Finance**

This course is an introduction to the mathematics of finance. Topics covered include bonds, interest rates and present value, options and contracts, arbitrage and replication, binomial models, conditional expectations and design of European options, stopping times and American options, random walks and Brownian motion, log-normal model of stock prices, Black-Scholes price formula, Ito integrals and stochastic differential equations, Black-Scholes theory. Prerequisite: MATH-SHU 123 (Multivariable Calculus) and 233 (Theory of Probability) or 235 (Probability and Statistics).

MATH-SHU 252

### **Numerical Analysis**

In numerical analysis, one explores how mathematical problems can be analyzed and solved with a computer. This has very broad applications in mathematics, physics, engineering, finance, and the life sciences. This course gives an introduction to numerical analysis for mathematics majors. Theory and practical examples using Matlab will be combined to study a range of topics, from simple root-finding procedures to differential equations and the finite element method.

Prerequisite: Grade of C or better in MATH-SHU 123 (Multivariable Calculus) and 140 (Linear Algebra).

MATH-SHU 262

### **Ordinary Differential Equations**

This course introduces the main ideas of ordinary differential equations. Topics include vector fields, existence and uniqueness of solutions of first-order differential equations (linear and non-linear), stability, higher order differential equations, Series Solutions of second order linear differential equations, Laplace transform and numerical methods, nonlinear systems, boundary value problems.

Prerequisite: Grade of C or better in MATH-SHU 121 (Calculus) and 140 (Linear Algebra).

MATH-SHU 263

### **Partial Differential Equations**

Many laws of physics are formulated as partial differential equations. This course discusses the simplest examples, such as waves, diffusion, gravity, and static electricity. Nonlinear conservation laws and the theory of shock waves are discussed, as well as further applications to physics, chemistry, biology, and population dynamics.

Prerequisite: Grade of C or better in MATH-SHU 262 (Ordinary Differential Equations).

MATH-SHU 265

### **Linear Algebra and Differential Equations**

This course is an introduction to linear algebra and ordinary differential equations. Topics covered include the fundamental concepts of linear algebra such as matrix theory, determinants, vector spaces, subspaces, basis, linear transformations, eigenvectors, eigenvalues and the inner product spaces, as well as the fundamental techniques of ordinary differential equations such as first order differential equations, linear differential equations and systems. Pre-requisite: Grade of C or better in MATH-SHU 121 (Calculus).

MATH-SHU 282

### **Functions of a Complex Variable**

Complex variables and functions play an essential role in many branches of mathematics and science. In this course, we cover basic aspects of the theory, including differentiation of complex functions, the Cauchy-Riemann equations, Cauchy's theorem and integral formula, singularities, Laurent series, conformal mapping, analytic continuations, and applications.

Prerequisite: Grade of C or better in MATH-SHU 123 (Multivariable Calculus) and 140 (Linear Algebra).

MATH-SHU 328 (formerly 202)

### **Honors Analysis I**

This course is a continuation of Honors Calculus, focusing on integration and on sequences of functions. It will cover Riemann's integral, integration techniques, basic topology, convergence of sequences of functions, uniform convergence, series of functions, power series, the rigorous definition of the exponential, logarithmic, and trigonometric functions, the Arzela-Ascoli theorem, and Fourier series.

Prerequisite: Grade of C or better in MATH-SHU 201 (Honors Calculus).

MATH-SHU 329 (formerly 203)

### **Honors Analysis II**

This course is a continuation of Analysis I, with emphasis on functions of several variables. Topics covered include Euclidean spaces, continuity of function of several variables, partial derivatives, differentiability, extrema, Lagrange multipliers. It introduces the ideas of Lebesgue integration, multiple integrals, change of variable, line integrals, and the formulas of Green in two and three dimensions.

Prerequisite: Grade of C or better in MATH-SHU 328 (Honors Analysis I) and MATH-SHU 141 (Honors Linear Algebra I).

MATH-SHU 348

### **Honors Algebra I**

This introduction to abstract algebra is a rigorous study of groups and rings. Topics covered include symmetric and linear groups, the Sylow theorems, classification of finitely generated Abelian groups, polynomial and quotient rings, ideals, principal ideal domains, unique factorization, and the Nullstellensatz.

Prerequisite: Grade of C or better in MATH-SHU 141 (Honors Linear Algebra I).

MATH-SHU 362

### **Honors Ordinary Differential Equations**

This course introduces the main ideas of ordinary differential equations, with a particular emphasis on proofs, in comparison with the course MATH-SHU 262. It will cover vector fields, proof of local existence and uniqueness of solutions of first-order differential equations by Picard's fixed point iteration, stability, higher order linear differential equations and their set of fundamental solutions (with proof of characterisation by the Wronskian), series solutions of second order linear differential equations (ordinary points, proof of Fuchs Theorem, regular singular points and indicial equation), Laplace transform and numerical methods, nonlinear systems, boundary value problems.

Prerequisite: Grade C or better in MATH-SHU 121 (Calculus). The course MATH-SHU 140 (Linear Algebra) is also highly recommended.

MATH-SHU 375

### **Topology**

This course presents the basic ideas of point-set topology, as well as their interactions with analysis and algebra. Topics covered include topological spaces, metric spaces, compactness, Tychonoff's theorem, separation axioms, Urysohn's lemma, covering spaces, fundamental groups, and homotopy groups.

Prerequisite: MATH-SHU 328 (Honors Analysis I).

MATH-SHU 377

### **Differential Geometry**

This course investigates the differential properties of curves and surfaces. Topics covered include differential manifolds, tangent bundle, vector fields, differential forms, Stoke's theorem, Riemannian geometry, geodesics, and the exponential map.

Prerequisite: MATH-SHU 329 (Honors Analysis II).

MATH-SHU-G 2430

### **Real Variables**

This course is a continuation of the analysis sequence with a focus on measure and function spaces. Topics covered include Lebesgue measure and integration, abstract measure spaces, Lebesgue differentiation, the Radon-Nikodym theorem, Fubini's theorem,  $L_p$  and Hilbert spaces, the Riesz representation theorem, and Fourier series.

Prerequisite: Grade of C or better in MATH-SHU 329 (Honors Analysis II) and 142 (Honors Linear Algebra II).

MATH-SHU-G 2550

### **Functional Analysis**

This course on applications of concepts in functional analysis gives special emphasis to function spaces used in practice, including Hilbert, Hardy, and Sobolev spaces. Other topics covered include the spectral theorem and its application to differential equations, Fourier series, compact operators, Fredholm determinants, measure, volume, and nonlinear analysis for infinite-dimensional spaces, and Brownian motion.

Prerequisite: Grade of C or better in MATH-SHU-G 2430 (Real variables).

NEUR-SHU 10

## Free Will and the Brain

"The concept of free will plays a central role in society, in particular in the criminal justice system. In this course, we will explore the concept of free will and related topics in neuroscience such as intention and self-control. We will cover the evidence from neuroscience that argues that behavior is, under normal conditions, not deterministic, thus providing a material basis for the concept of individual agency. We will then address the neuroscience evidence for cases where individual agency is reduced through external influence via learning and the reward and punishment systems. Finally, we will examine the most extreme cases of this, psychiatric disorders that reduce agency: addiction, compulsive disorders, and anxiety disorders  
Prerequisite: None.

NEUR-SHU 10J

## What Can Neuroscience Tell Us About Free Will?

"The concept of free will plays a central role in society, in particular in the criminal justice system. In this course, we will explore the concept of free will and related topics in neuroscience such as intention and self-control. We will cover the evidence from neuroscience that argues that behavior is, under normal conditions, not deterministic, thus providing a material basis for the concept of individual agency. We will then address the neuroscience evidence for cases where individual agency is reduced through external influence via learning and the reward and punishment systems. Finally, we will examine the most extreme cases of this, psychiatric disorders that reduce agency: addiction, compulsive disorders, and anxiety disorders."  
Prerequisite: None.

NEUR-SHU 100

## Math Tools for Life Sciences

This course will provide a broad introduction to basic mathematical and statistical tools for a quantitative analysis in the life sciences. It will cover a broad range of topics, including introduction to linear algebra, probability, linear regression, and statistical tests. We will use the mathematical programming language MATLAB for in-class demonstrations, computer lab during recitations and homework assignments.  
Prerequisite: BIOL-SHU 22 (Foundations of Biology II) or permission by the instructor.

NEUR-SHU 201

## Introduction to Neural Science

An introductory lecture course covering the fundamental principles of neuroscience. Topics will include: principles of brain organization; structure and ultrastructure of neurons; neurophysiology and biophysics of excitable cells; synaptic transmission; neurotransmitter systems and neurochemistry; neuropharmacology; neuroendocrine relations; molecular biology of neurons; development and plasticity of the brain; aging and diseases of the nervous system; organization of sensory and motor systems; structure and function of cerebral cortex; modeling of neural systems.  
Prerequisite: BIOL-SHU 22 (Foundations of Biology II) or permission by the instructor.

NEUR-SHU 222

## Perception

How do humans and other animals obtain knowledge about the world? It is easy to take perception for granted, but complex processes (only partly understood) underlie our ability to understand the world by seeing, hearing, feeling, tasting, and smelling it. Perception has fascinated philosophers, physicists, and physiologists for centuries. Currently, perception is a central topic not only in neuroscience, but also in psychology, cognitive science, and computer science. How do scientists approach perception? We seek to discover lawful relations between perceptual experiences and the physical world and to develop models of the processes and mechanisms that produce these connections. To accomplish this, we need accounts of the information, the computational processes, and the neural mechanisms involved in perception. In this course, we will discuss fundamental problems in perception (primarily vision), and learn about techniques that are applied in attempts to solve these problems. The learning outcomes of this course include a better understanding of human perception and critical thinking skills for the analysis and interpretation of the related research reports.  
Prerequisite: NEUR-SHU 201 (Introduction to Neural Science) or PSYC-SHU 101 (Introduction to Psychology).

NEUR-SHU 251

## Behavioral and Integrative Neuroscience

This lecture and laboratory course addresses the physiological and anatomical bases of behavior. Lectures and laboratory experiments will emphasize mammalian sensory, motor, regulatory, and motivational mechanisms involved in the control of behavior, and higher mental processes such as those involved in language and memory.  
Prerequisite: NEUR-SHU 201 (Introduction to Neural Science).

NEUR-SHU 261

## Special topics: Neurobiology of Decision Making

This special topics course will review recent research that combines psychological, economic, and neurobiological approaches to study human and animal decision-making. The course will focus on our current understanding regarding the neural underpinnings of decision-making, and how evidence concerning the neural processes associated with choices might be used to advance economic and psychological theories of decision-making. Topics covered include valuation, value learning, perceptual and value-based decisions.

Prerequisite: NEUR-SHU 201 (Introduction to Neural Science) or permission by the instructor.

NEUR-SHU 265

### **Neural Bases of Speech and Language**

How does our brain work to enable us to speak and understand language? Are there special parts of the brain dedicated to speech and language? What is it like to be abnormal at speech or lose language? This course provides an introduction of the neuroscience research of speech and language, and interdisciplinary field at the heart of human cognitive neuroscience. Lectures cover basic aspects of language processing in the healthy brain, ranging from early sensory perception to higher level semantic interpretation, as well as a range of neurological and developmental language disorders, including aphasia, dyslexia, and other speech and language impairment. Functional neuroimaging and electrophysiological techniques will be introduced. The goal of this course is to let students acquire basic knowledge of neurolinguistics, as well as familiarise the ideas of interdisciplinary research in the intersection of cognitive science and neuroscience.

Prerequisite: None.

NEUR-SHU 280

### **Special Topics in Neural Science**

A seminar course providing in-depth treatment of an area of current interest neuroscience. Lectures will present background material and address current problems in the area related to the topic. Students will read and discuss review articles and current literature on the topic. Course content will be determined on a semester-by-semester basis. Possible topics include "Decision Making"; "Neurobiology of Learning and Memory"; "Signal Processing in Neural Networks"; "Intro to Computer Modeling of Neuronal Systems"; "Cognitive Neuroscience"; "Can Exercise Change Your Brain?"; "Molecular Mechanisms of Memory"; "Color Vision"; and "Neuroeconomics and Decision-Making."

Pre-requisite: NEUR-SHU 201 (Introduction to Neural Science) or permission by the instructor.

NEUR-SHU 301

### **Cellular and Molecular Neuroscience**

A lecture course that provides students with broad exposure to current questions and experimental approaches in cellular neuroscience. Lectures are organized into three areas: cell structure and organization of the vertebrate central nervous system, mechanisms underlying neural signaling and plasticity, and control of cell form and its developmental determinants.

Prerequisite: NEUR-SHU 251 (Behavioral and Integrative Neuroscience).

NEUR-SHU 302

### **Modeling & Simulations in Neuroscience**

This course introduces students in neuroscience, and mathematics to the use of mathematical methods in modeling and computer simulation to investigate phenomena in neuroscience. The course material to be covered is models of electrophysiology of neurons and synapses, neural networks and examples, synaptic plasticity for memory and learning together with computer simulations. Mathematical tools in linear algebra and differential equations, and programming in Matlab is introduced as needed within the course.

Prerequisites: NEUR-SHU 100 (Math Tools for Life Sciences) and NEUR-SHU 201 (Introduction to Neural Science). Familiarity with linear algebra, ordinary differential equation, and programming are recommended but not required.

NEUR-SHU 401

### **Neural Science Honors Seminar**

Students attend regular meetings to learn research basics and discuss recent advances in neuroscience and research related issues. Prerequisite: Students must have completed (or enrolled in) all remaining major requirements. Open only to students qualified and having been recommended by the Director of Undergraduate Studies for Neural Science.

NEUR-SHU 997/998

### **Neural Science Capstone/Independent Study I(Fall, 2-4 points) & II (Spring, 2-4 points)**

Provides supervised research activities in laboratories. Undergraduates are matched with a faculty member working in an area of interest to the student. Students gain experience in many aspects of research and attend regular lab/supervision meetings to discuss recent advances in neuroscience and research-related issues. Independent Study must have a combined total of at least 4 credits but no more than 8 credits to fulfill the major capstone course requirement. The 4-credit requirement can be fulfilled in one semester with a 4-credit load or over two semesters with a 2-credit load in each semester. Independent Study I and II can be done with the same supervisor or two different supervisors.

A Proposal for Independent Study form must be filled out, signed by the Director of Undergraduate Studies for Neural Science, and submitted to the Registrar. This course requires a written report on the research to be evaluated by the faculty supervisor, with a copy submitted to the DUS.

Prerequisite: Students must have completed (or enrolled in) all remaining major requirements.

PHYS-SHU 11  
**General Physics I**

This is an introductory physics course covering primarily mechanics and thermodynamics. The mechanics component will cover Motion along a Straight Line, Motion in Two and Three Dimensions, Newton's laws of motion, Forces, Kinetic Energy and Work, Potential Energy and Conservation of Energy, Center of Mass and Linear Momentum. The thermodynamics component will cover Temperature, Heat, and the First Law of Thermodynamics, The Kinetic Theory of Gases, Entropy and the Second Law of Thermodynamics. In addition, some introduction to the foundations of physics such as vectors and measurement will be given. In addition to the course material, the students will do open-ended research projects that encourage creative applications of physics concepts.

PHYS-SHU 12  
**General Physics II**

This course is an introduction to electricity and magnetism, light, geometrical and wave optics. Many concepts from General Physics I will be used in this course such as velocity, acceleration, force, Newton's laws of motion, work and energy. The course uses high school algebra, geometry and trigonometry, vectors and vector arithmetic, and some basic calculus. The algebra, geometry, and trig are essential. The course has lecture, homework and laboratory components.

Prerequisite: PHYS-SHU 11

PHYS-SHU 71  
**FoS Physics Laboratory**

This laboratory course is to accompany FoS physics lecture. Students will be familiarized with various techniques, equipment, data analysis skills, and ideas common to physics laboratories. Experiments in mechanics and thermodynamics are chosen to illustrate the experimental foundation of physics presented in the lecture courses. The laboratory will also emphasize scientific writing.

PHYS-SHU 91  
**Foundations of Physics I Honors**

Measurement, Motion Along a Straight Line, Vectors, Motion in Two and Three Dimensions, Force and Motion, Kinetic Energy and Work, Potential Energy and Conservation of Energy, Center of Mass and Linear Momentum, Torque and Angular Momentum, Rotation and Rigid-Body Motion, Gravitation, Equilibrium, Stability, Elasticity, Oscillations and Harmonic Motion, Special Relativity.

PHYS-SHU 93  
**Foundations of Physics II Honors**

Continuation of Foundation of Physics I. Topics include electric charge and electric field, electric potential, Gauss's law, capacitor, current, circuits, magnetic fields, induction, electromagnetic waves, and Maxwell's equations (in an integral form). This is the second semester of a four-semester calculus-based introduction to Physics, and is intended for physics majors and other interested students.

Prerequisite: Foundation of Physics I Honors (PHYS-SHU 91), Freshman Math (including linear algebra, vectors, linear vector spaces and matrices, functions of several variables, partial derivatives, multiple integrals)

PHYS-SHU 94  
**Physics II Lab**

This laboratory course is to accompany Physics II lecture PHYS-SHU 12. Experiments in electricity and magnetism, and optics are chosen to illustrate the experimental foundations of physics presented in the lecture courses. The laboratory will also emphasize scientific writing.

Prerequisite: Foundation of Physics I Laboratory (PHYS-SHU 71)

PHYS-SHU 95  
**Foundations of Physics III Honors**

Continuation of Foundation of Physics II. Topics include thermodynamics, kinetic theory, statistical physics, wave motion, sound, reflection, refraction, interference, diffraction, polarization of light. This is the third semester of a four-semester calculus-based introduction to Physics, and is intended for physics majors and other interested students. The lectures serve as an introduction, and the real work of learning starts when you do the homework and recitation. The lectures will be most useful to you if you ask questions when there is something you do not understand. Do not imagine that you are the only person in the room who does not understand something. The most important part of the class is the homework you do. You learn more physics by doing the homework and recitation than from the lecture. I encourage you to work together with one or more friends on the homework assignments. It is more enjoyable that way, and you learn by explaining things to each other.

Prerequisite: Foundation of Physics I Honors (PHYS-SHU 91), Foundation of Physics II Honors (PHYS-SHU 93)

PHYS-SHU 96  
**Foundations of Physics IV Honors**

Continuation of Foundation of Physics III. Topics include Relativity, Photon, Quantum Mechanics, Molecules and Condensed Matter, Nuclear Physics, Particle Physics and Cosmology. This is the fourth semester of a four-semester calculus-based introduction to Physics, and is intended for physics majors and other interested students.

Prerequisite: Foundation of Physics I Honors (PHYS-SHU 91), Foundation of Physics II Honors (PHYS-SHU 93),

Foundation of Physics III Honors (PHYS-SHU 95)

PHYS-SHU 106

### **Mathematical Physics**

Mathematics is the language of physics. In this course, students will understand the advanced mathematical methods most widely used in physics and extend their skills by practice. On completion, successful students will be able to understand and proficiently use (1) vector and matrix algebra, (2) ordinary and partial differential equations, and (3) functions of complex variables. The lectures serve as an introduction, and the real work of learning starts when you do the homework. The lectures will be most useful to you if you ask questions when there is something you do not understand. Do not imagine that you are the only person in the room who does not understand something. The most important part of the class is the homework you do. You learn more physics by doing the homework than from the lecture. I encourage you to work together with one or more friends on the homework assignments. It is more enjoyable that way, and you learn by explaining things to each other.

PHYS-SHU 201

### **Topics in Introduction to Quantum Mechanics and Quantum Technology**

This course is a simplified introduction to quantum mechanics and its applications, in particular to quantum technologies. The key concepts of quantum mechanics, such as the wavefunction, Schrödinger equation, superposition, uncertainty relation, and Dirac notation will be introduced. These will be applied to quantum computing and other quantum technological applications. No prior knowledge of quantum mechanics will be assumed.

PHYS-SHU 210

### **Computational Physics**

Introduction to computational physics, with an emphasis on fields of current research interest where numerical techniques provide unique physical insight. Topics are chosen from various branches of physics, including numerical solution of ordinary and partial differential equations, eigenvalue problems, Monte Carlo methods in statistical mechanics, field theory, dynamical systems, and chaos.

Prerequisite: (CCSC-114 or PHYS-95) & MATH-124.

PHYS-SHU 250

### **Mechanics**

Intermediate-level course on the principles and applications of dynamics. Topics include rotational kinematics and dynamics, conservation laws, central force motion, Lagrange's and Hamilton's equations, normal modes and small oscillations, accelerated reference frames, Fourier analysis, and chaos theory.

Prerequisite: (CCSC-114 or PHYS-95) & MATH-212.

PHYS-SHU 251

### **Electricity and Magnetism**

Introduction to Maxwell's equations with applications to physical problems. Topics include electrostatics, magnetostatics, the solution of the Laplace and Poisson equations, dielectrics and magnetic materials, electromagnetic waves and radiation, Fresnel equations, transmission lines, and wave guides.

Prerequisite: (CCSC-114 or PHYS-95) & MATH-212.

PHYS-SHU 252

### **Solid State Physics**

Solid state physics cover the principles of crystallography; crystal structure; lattice vibrations; band theory—metals and insulators; semiconductors; magnetism; and superconductivity. Topics of current interest such as high temperature superconductivity, quantum Hall Effect, and fullerenes may be included, depending on interest.

Prerequisite: PHYS-250.

PHYS-SHU 255

### **Biophysics**

Introduction to the physical mechanisms underlying biological processes. Elements of equilibrium and nonequilibrium statistical mechanics are used to explain how the molecular-scale components of biological cells store and process information, how they organize themselves into functional structures, and how these structures cooperatively endow organisms with the ability to eat, move, respond to the environment, communicate and reproduce.

Prerequisite: PHYS-250.

PHYS-SHU 301

### **Quantum Mechanics**

Designed to provide a rigorous mathematical introduction to quantum mechanics, this course covers the Schrödinger and Heisenberg description of quantum systems, application to basic atomic structure and simple boundary condition problems, quantum statistics, and perturbation theory.

Prerequisite: (CCSC-114 or PHYS-95) & MATH-160.

PHYS-SHU 302

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**Statistical Mechanics and Thermodynamics**

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Topics include relation of entropy to probability and energy to temperature, the laws of thermodynamics, Maxwell-Boltzmann, Bose-Einstein, and Fermi-Dirac statistics, equations of state for simple gases and chemical and magnetic systems, and elementary theory of phase transitions.

Prerequisite: PHYS-250.

PHYS-SHU 303

**Advanced Physics Laboratory**

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A further development of the experimental techniques introduced in Foundations of Science as applied to modern physics. Following a number of introductory experiments, students have at their option a variety of open-ended experiments they can pursue, including the use of microcomputers for data analysis. Experimental areas include Mossbauer effect, cosmic rays, magnetic resonance, superfluidity and super-conductivity, and relativistic mass.

Prerequisite: CCSC-114 or PHYS-95.

PHYS-SHU 314

**Astrophysics**

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Introduction to modern astrophysical problems with an emphasis on the physical concepts involved: radio, optical, and X-ray astronomy; stellar structure and evolution; white dwarfs, pulsars, and black holes; and galaxies, quasars, and cosmology.

Prerequisite: PHYS-250.

PHYS-SHU 315

**Nuclear and Particle Physics**

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The phenomenology and experimental foundations of nuclear and particle physics are explored in this course, with emphasis on the fundamental forces underlying particle interactions.

Prerequisite: PHYS-250.

PHYS-SHU 998

**Integrated Science Capstone**

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This course provides students with a completion of their undergraduate science education by applying the skills and knowledge they acquired over the course of their major to scientific problems across disciplines. Students will be paired with a faculty mentor to engage either in Independent Research or Literature Review to address a scientific question of the student's design, culminating in a written report. Students are encouraged to work with faculty mentors outside of their own field. Open only to Biology, Chemistry, and Physics majors in the senior year. Prerequisite: students must have completed (or enrolled in) all remaining major requirements.

PHYS-SHU 999

**Physics Research in Shanghai.**

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CCSC-SHU 130

**Introduction to computer programming with Mathematica**

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Mathematica is a powerful tool for technical computing. It provides a robust computing environment that is used in biology, chemistry, economics, engineering, finance, mathematics, physics, the arts, and a wide range of other fields. It is designed for symbolic as well as numerical calculations, and for visualization of technical information. Mathematica can change forever both what we teach and learn in the classroom, and how we teach and learn it. To provide students with the very best education possible, we need to bring it into our classrooms. The goal of this course is to empower students in the sciences, engineering, economics, finance, and even in the arts and humanities, to use symbolic and numeric computation, and thereby give them a tool (and a leg up) that they can use throughout their whole professional carrier. The course will include the following topics: A brief introduction to computer science and numerical methods, Mathematica as a sophisticated symbolic and numeric calculator, Wolfram Alpha – a computational database, programming in Mathematica and the concepts behind the language. Procedural programming, functional programming and rule based programming, parallel computing using multiple cores, dynamic interfaces (animation), precision and accuracy, working with units, vectors, matrices, calculus, differential equations, difference (recurrence) equations, optimization methods, image and video processing, audio processing, finance and economics applications, and software development. Students will complete a project that they will choose from within their own areas of interest.

SOCs-SHU 131

## China and International Law

China's emergence as a ubiquitous player in world politics brings it into sustained contact with the existing world order, held together—sometimes tightly, sometimes loosely—by international law on a number of issue areas. This course considers international law and Chinese politics in a few key areas in an effort to appreciate that fact. The course has two main objectives: to deliver an interdisciplinary approach to international law marked by a discussion of China's domestic politics and foreign relations, and to help you to develop the ability to do original, analytical research that's relevant to the topics at hand. We will first introduce public international law and ground it in theories of international relations and Chinese politics. We will then explore how China and other countries create and navigate law regarding state rights and duties, human rights, environmental protection, the global economy, war and war-fighting, and territorial disputes.

Prerequisite: None.

SOCs-SHU 132

## Shanghai: Urban Planning and Development of a Twenty-First Century Global City

Shanghai continues to encounter the challenges and opportunities of a precipitously urbanizing geography, as urban planning has changed from being a socialist provider of goods and welfare to a supporter of China's expansion through the new "reform and opening up" market economy. In this course, we will delve into the economic, political, and cultural roles of cities, with a special focus on Shanghai – probably the best living laboratory to study urban planning in the world. In order to understand Shanghai in a theoretical context, two sets of readings will be introduced for each topic: classic writings in the field of urban studies/planning/sociology, architecture, history, and writings specific to Shanghai. This theoretical context will be heavily supplemented by a series of hand-on field trips, taking full advantage of Shanghai as our planning laboratory. The goal of this course is to introduce students to urban design, urban studies and city planning, as well as to help students develop their critical observation, analysis, and thinking skills regarding urban environment.

Prerequisite: None.

SOCs-SHU 141

## Methods of Social Research

This course serves as an introduction to the broad range of methodologies used to produce knowledge in the social sciences, including political science, economics, anthropology, psychology, and sociology. Students will learn how to effectively pose questions about social phenomena, how to design a research project, and how to identify and work with data. Readings also expose students to prominent examples of how both quantitative and qualitative methods are chosen and applied in the social sciences, to serve as a basis for students to choose methods in which they want to train further in their subsequent study. The focus of the lectures and discussions is thus on understanding the various methods and how they affect the design of a research project rather than actually applying them; the final project will require students to design a proposal for an independent research project of their choosing.

Pre-requisite: None.

SOCs-SHU 150

## Introduction to Comparative Politics

Why do some nations succeed while others fail? What is the relationship between regime type and prosperity? Can "struggling" countries learn from more "successful" ones? How do we define the success and failure of nations in the first place? This course will address these and other questions about the relationship between the domestic politics of a country and the outcomes in the country that most humans care about – wealth, happiness, stability, opportunity, and more. Students will learn tools for analyzing complicated issues like politics and prosperity through a social scientific lens. Students will master the fundamentals of the area of Comparative Politics through assignments, readings, exams, and hands-on analysis opportunities. Students will be challenged to leave their expectations and presumptions about "good" or "bad" regimes at the door, and come in, sleeves rolled up, ready to rigorously engage in the disciplined practice of Comparative Politics – including questioning whether it even makes sense to "compare" "politics" at all. The course will prepare students for upper level coursework in Political Science as well as general life success.

Prerequisite: None.

SOCs-SHU 160

## Introduction to International Politics

What are the causes of war? Why are some countries able to cooperate over issues like trade or the environment, while others are not? What is the role of international organizations and alliances, such as the UN, NATO, and the EU in the international state system? This course will give students an introduction to thinking analytically and systematically about outcomes in the international system, will teach them the prevailing major theories about these issues, and will equip students to begin to formulate their own answers to these questions. Students will learn a set of formal tools to analyze complex world events, which will prepare them for upper level international relations and other social science courses, as well as to become comfortable applying social science methodologies and theories to better understanding the world around us. The class will use some basic math, including introductory game theory, and some background in inferring statistical results will be helpful, but is not required. Over the course of the semester students will be challenged to apply the models and theories from class to real world situations.

Prerequisite: None.



SOCS-SHU 170

### **Introduction to Global Health**

This course provides an introduction to current challenges in global public health. The central concepts and tools will be introduced, and health policies and health systems will be analyzed in different environments. We will discuss the role of demographics, geography, and socio-economic factors like income, resources and infrastructures disparities. We will discuss in depth a few important case studies, such as the rise of life expectancy and the epidemiological transition, and aging and global health, underline the role of environmental factors in global health, and discuss the new trends of global health for the immediate future.

Prerequisite: None.

SOCS-SHU 185

### **The Relationship Between Government and Religion**

This course examines the relationship between government and religion. To this end, the course concentrates on the interpretation, meaning, application, and wisdom of 16 words from the American Constitution: "Government shall make no law respecting an establishment of religion or prohibiting the free exercise thereof." These 16 words serve as a starting point for the course because they broadly prohibit government entanglement with religion while simultaneously bestowing government with the responsibility to protect religious freedom. The primary texts of the course are the opinions of the United States Supreme Court, the highest Court in the United States, and final authority on interpretations of the Constitution. Prior knowledge of the subject matter or the United States is not a prerequisite for this class. Application required.

SOCS-SHU 210

### **Statistics for The Behavioral Sciences**

Students gain familiarity with data description, variance and variability, significance tests, confidence bounds, and linear regression, among other topics. Students work on social science data sets, learn approaches to statistical prediction, and learn to interpret results from randomized experiments.

Prerequisite: None.

SOCS-SHU 229

### **Capitalism, Socialism, Communism: Theory and Practice**

The ideological clash between capitalist and communist regimes shaped much of the politics of the 20th century, and continues to frame the discourse of world politics with the rise of China as a global power. In this course, we study the varieties of capitalism, socialism, and communism envisioned by theorists and put into practice by nations. We examine the economic and political aspects of these regime types in their imagined and existing forms to develop a taxonomy with which to classify and evaluate contemporary regimes. Course case studies include the U.S., Sweden, and China, and students complete a case study of another regime as a final project.

Prerequisite: Successful completion of GPS, or instructor's permission.

SOCS-SHU 232

### **International Law and Institutions**

How does the application of international law by international institutions, and through treaties among states, contribute to the peace and well-being of the peoples of the world? What are the sources of international law? Who says what international law is, and who may compel obedience? What areas of human life does international law address? What are the legal, political and moral foundations of international institutions such as the United Nations and the UN Security Council, the International Monetary Fund and the World Bank, the International Court of Justice and the International Criminal Court? In this course we examine core concepts in international law and crucial players in its formation and enforcement, and consider compelling critiques of its moral force and efficacy, focusing throughout the course on several international crises in recent history, to better understand these questions.

Prerequisite: SOCS-SHU 150 or 160.

SOCS-SHU 234

### **Image as Evidence**

Images surround us; we think through images, they shape our words and our worlds. Images entertain us, define us, haunt us. For all these reasons, images present a persistent problem for the social sciences—namely how to tame the force of images to provide evidence about the various worlds in which we as humans live, and in doing so, to push our methods and analyses beyond solely discursive modes of working and thinking. Through key readings and films, Image as Evidence explores the ways social scientists and others have wrestled with the image as a form of evidence in order to make otherwise hidden and invisible phenomena visible, to grasp nature, the senses, cognition, human suffering, and the movement of time. The course explores how images can be manipulated, meanings twisted, and truth (despite much aversion to the word) unmade. The effort of scholars to constantly renew their relationships to images challenges us to "look" differently, and in looking, helps us to consider our ethical and critical relation to the world.

Prerequisite: None.

SOCS-SHU 235

### **Global Perspectives on Migration and Ethnicity**

Migration, both internationally and internally, has continually shaped notions of ethnicity in nearly every context in the world. Focusing on contemporary migration in China and immigration post-1960s in the US, as well as education as a facet of social mobility, this course serves as an introduction to different theoretical and empirical

scholarship on migration and ethnicity. Topics include migrant adaptation/assimilation, social mobility, and the shifting construction of racial and ethnic categories.

SOCS-SHU 241

### **Cultures of Business and Work**

Anthropologists often study the unfamiliar cultural practices of marginalized people in faraway corners of the world. But what happens if we turn an analytical eye to powerful corporations, small businesses, and the workaday world of middle-income people as well? In this course we examine cultures of business – the norms, values, and unwritten rules of workplaces. We explore why factory floors in China are laid out how they are, why Japanese businessmen have to sing karaoke after work to get promoted, and why Silicon Valley success stories follow familiar narratives. In order to understand these diverse business settings, we examine major analytical approaches to business and work that focus on political economy, race, ethnicity, and gender. Throughout the class, we discuss what “corporate culture” and “office culture” mean, and consider the implications of this for anthropology’s longstanding investigation into “culture” more broadly. Through seminar discussions, current event presentations, and a final case study paper, students develop their own analytical perspectives on business and work.

Prerequisite: None.

SOCS-SHU 245

### **Ethnographic Thinking**

While ethnography—literally “to write” (grapho) “people” (ethnos)—has become synonymous with anthropology, it signifies a range of research methodologies widely used within the social sciences. The course considers discussions and debates about ethnographic research, ethics, and representation within the social sciences and beyond. The readings survey ethnographic theory and practice through a number of conceptual and methodological domains, including the problems they raise. Course topics are: objectivity, critiques of representation, participant-observation, cultural relativism, ethno-history, archives, conflict, interpretation and discourse analysis, verifiability, and life histories.

Prerequisite: None.

SOCS-SHU 248

### **Fraud**

Scientific misconduct is valuable because it tells us something about the norms and values of scientific inquiry over time. When scientists make things up or act badly, it says as much about our collective expectations of and sensibilities about scientific practice as it does the personal shortcomings of a small set of actors. The course allows students to examine instances of fabrication, falsification, and plagiarism through a diverse set of case studies. The aim is to unravel the motivations and impacts of fraud, to better appreciate methodological and evidentiary practices even or especially when they go awry, and to consider how wrongdoing shapes perceptions of science in popular culture. The course uses a broad approach to the social study of science to interrogate primary and secondary sources in each case of scientific misconduct.

Prerequisite: None.

SOCS-SHU 252

### **Nature in Social Thought**

What’s nature? What’s our relationship to it? In this course, we examine various answers to these questions from past generations of social thinkers. We survey a range of texts from different parts of the world, written under different historical circumstances. We consider the ideas on these pages in their respective social and political contexts.

Whereas some of the ideas are long gone with time, others become sediments of time – continuing to shape, and be shaped by, our thoughts and deeds. In fact, many of these ideas still inform and inspire empirical research and theoretical debates in the social sciences. As an introduction to environmental social theory, this course provides a selective overview of (1) the intellectual lineage of “nature” in different social scientific traditions, and (2) the ongoing empirical investigations into our relationship with nature in the Anthropocene.

Prerequisite: Successful completion of GPS, or instructor’s permission.

SOCS-SHU 270

### **Social Change in Contemporary China**

This course surveys post-1949 Chinese society, focusing on socioeconomic changes since 1978. It draws from scholarly work on China in sociology, economics, and political science. It explores the basic institutional make-up of Chinese society, the structural changes brought forth in the economic reform era, and how these institutions configure social life in contemporary China. Attention is paid to both changes from and continuities with the pre-reform past. After taking this course, students will be equipped with background information necessary to understand China’s complex economic, political, and social phenomena, and the impact of reform on social structures/institutions, individuals’ life chances, and social relations in contemporary China.

Prerequisite: Successful completion of GPS, or instructor’s permission.

SOCS-SHU 272

### **Social Change in Contemporary China**

This course surveys post-1949 Chinese society, focusing on socioeconomic changes since 1978. It draws from scholarly work on China in sociology, economics, and political science. It explores the basic institutional make-up of Chinese society, the structural changes brought forth in the economic reform era, and how these institutions configure social life in contemporary China. Attention is paid to both changes from and continuities with the pre-reform past. After taking this course, students will be equipped with background information necessary

to understand China's complex economic, political, and social phenomena, and the impact of reform on social structures/institutions, individuals' life chances, and social relations in contemporary China.

Prerequisite: Successful completion of GPS, or instructor's permission.

SOCS-SHU 272

### **The U.S. Constitution: Is It relevant to China?**

This course covers some basic political concepts and legal doctrines lying at the foundation of the United States' Constitution, with the goal of assessing whether and to what extent these concepts and doctrines are relevant to China. The basic American concepts include the ideas of popular sovereignty and inalienable individual rights (in particular, freedom of speech), federalism, and separation of powers. The basic doctrines include judicial review to enforce the Constitution against "political" actors; Executive powers to act in the absence of, and interpret, legislation; limits on the legislature's power to enforce legislation; and the duty of subnational officials to extend the equal protection of the laws to all citizens, regardless of race or geographic origin. In addition to examining these ideas using American sources, we will also apply them to present-day controversies in China, examining whether these American ideas might improve governance by Chinese officials or inform the interpretation of the Chinese Constitution. Students will be divided into two teams, one team supporting and the other team opposing the use in Chinese law and politics of some version of an American constitutional concept or doctrine. The teams will hold oral arguments, and each team member will submit four briefs of roughly 1,250 words each, attacking or defending four American positions arguing their team's positions on topics ranging from the powers of the Supreme People's Court to engage in judicial review to the powers of the Chinese executive to detain citizens without judicial process. Underlying both the discussion of American law and its application to Chinese controversies is a broader question: How is it possible for any law -- mere words on a piece of paper -- practically to control the actions of very powerful political actors like members of Congress, state legislatures, governors, Presidents, and judges?

Prerequisite: None.

SOCS-SHU 275

### **US-China Relations**

This course examines the complexities of the bilateral relationship between the People's Republic of China (China) and the United States (US), focusing on their historical rapport, major debates, and current relations. Topics include Sino-US economic relations, media reporting, variation in political systems, global politics, climate/energy issues, military affairs, and contested territories.

Prerequisite: SOCS-SHU 160 is recommended, but not required.

SOCS-SHU 300

### **Topics in Social Science**

Check Albert for various relevant topics each semester.

SOCS-SHU 300C

### **Topics in Law and Politics**

Check Albert for various relevant topics each semester.

SOCS-SHU 301

### **Complexity**

Complex Systems is an exciting field of research that unites the social sciences, the natural sciences, and creative scholars around the world. Complex systems refers to any group of diverse and purposive agents who interact with one another, usually over a network. These agents can be anything from neurons to humans to ants to countries, and their interactions give rise to often unexpected and important -- emergent -- outcomes, like peace, cognition, war, or colonies. In this class students will gain an introduction to what a complex system is, how scholars grapple with these -- complex -- questions, and will be challenged to see and analyze the many complex systems in their world around them.

Prerequisites: Introduction to International Politics, OR Introduction to Comparative Politics, OR Microeconomics/ Principles of Microeconomics, OR Instructor Permission.

SOCS-SHU 306

### **Pestilence**

The course introduces students to problems of epidemic disease and disorder worldwide, and considers various efforts to define and address these problems. The course is designed to offer students a robust survey of literature (both classic and contemporary) concerned with threats to human health--and in doing so, engages an array of social science research perspectives and practices. The course considers the actors, institutions, and forms of knowledge at work in addressing epidemic disease and making "global health" today. By exploring the cultural, environmental, social, political, and epidemiological factors that shape patterns of disease and disorder across and between societies, the course allows students to analyze the systems and values that reinforce specific paradigms of global health policy and science, historically as well as in our present moment.

Prerequisites: None.

SOCS-SHU 318

### **Ethnographic Methods**

This course is a practicum-based seminar in methods of ethnographic fieldwork and anthropological inquiry and

writing. The course explores the conceptual and critical basis of ethnography through fieldwork assignments and readings. The approach of the course is both experiential and experimental—how do we build theories about the world and our place in it? How does anthropology secure evidence and meaning in ways that are empirical, comparative, and deeply theoretical? The course offers students the opportunity for creative and rigorous training in ethnographic methods as well as a chance to produce a piece of ethnographic work.  
Prerequisites: None.

**SOCs-SHU 331**  
**Politics in China**

This course examines the complexities of politics within China, focusing on the decline of dynastic China and the contemporary challenges of re-creating political order. Topics include rise of the Communist Party, political organization and policy in the People's Republic, role of ideology, foreign relations, the politics of modernization, and China's increasing integration into the world economy. This course is designed to introduce students to the political institutions and processes as well as major events in Chinese politics. In addition, students will be asked to develop a significant, writing-intensive research paper over the semester. Based on previous analytical frameworks from the study of political science, the course considers historical and current dynamics such as the changing roles of political institutions (government, bureaucracy, parliament and legal systems), party dynamics, politics of economic reforms, democratization and Chinese foreign affairs.  
Prerequisites: SOCS-SHU 150 OR 160.

**SOCs-SHU 333**  
**Global Environmental Politics**

This course examines the ethics, law, politics, and policy of global environmental issues. It provides a broad overview of the key concepts, debates, actors, and issues in global environmental politics. The course reviews the development of global environmental regimes in areas ranging from climate change to waste management. It equips students with conceptual depth and empirical breadth to critically examine the state of the global environment.  
Prerequisite: It is recommended, but not required, that students take SOCS-SHU 135 Environment and Society prior to enrolling in this course.

**SOCs-SHU 334**  
**Legal Psychology**

The course provides an overview of research in legal psychology and how it can be used to improve criminal investigations, legal processes, and judicial decision-making. For example, we consider factors that negatively affect the reliability of witness statements and what can be done to improve them, issues related to child witnesses and criminal investigations involving children, and criminal profiling and dangerousness assessment of offenders. The course adopts an interdisciplinary approach, examining the influence of organizational, societal and cultural factors on legal practices and procedures. The course ends with a mock trial, based on materials created from real criminal cases, in which students adopt the role of either a psychological expert or a lawyer.  
Prerequisite: PSYC-SHU 101 Introduction to Psychology is a prerequisite for the course. This can be waived by the instructor for individual students based on background and preparation.

**SOCs-SHU 339**  
**Comparative Revolutions**

Why do some countries experience revolution? What differentiates a revolution from a civil war, military coup, or foreign invasion? Importantly, how do various factors or variables come together to create revolution and can these constitute a generalizable theory of the emergence of revolution? This course is based on the study of revolutions in the modern context. Also, the course will hone your skills in social science writing, in qualitative comparative methods, and in theory building. We will define revolution and examine competing theories about its causes, outcomes, and processes. While examining the cases of France, Russia, and China, we will be particularly concerned about explaining why revolution occurs. We will then consider how more contemporary cases challenge or support those theories, focusing on the case of Iran and expanding the study to other cases while considering examples that might not fit our definition of revolution. As states face tumultuous change, the study of social movements and revolutions becomes particularly salient for both comparative politics and international affairs.  
Prerequisite: SOCS-SHU 160 or SOCS-SHU 150.

**SOCs-SHU 340**  
**Comparative Constitutions**

How have the peoples of Germany, Iran and South Africa constituted their governments? What were the historical, political, and social constitutional moments (of revolution and war) that gave birth in these countries to written constitutions? We examine key provisions of these constitutions to understand what values they claim to impose on future generations. We ask why present generations should be constrained by the constitutional choices of a prior society. We look at constitutional practice, especially as it relates to: social-economic rights to education, housing or income; political association and speech; minority groups; the rights of women; and super-dominant political or religious or ethnic parties. Throughout, we ask how an "ideal constitutional citizen" of each country could decide whether an act of state power or a claim of right by a citizen is consistent with constitutional justice. We examine key constitutional language and important court decisions, particularly about human rights. And we look beyond the law—especially to film, but also to journalism and scholarly writing on politics and history—to seek the constitutional spirit of each country.  
Prerequisite: SOCS-SHU 160 (Introduction to International Politics) or SOCS-SHU 150 (Introduction to Comparative Politics) or SOCS-SHU 272 (US Constitution—Is It Relevant to China?), or comparable courses relating to law or politics at other NYU sites, or equivalent preparation, or with instructor's permission.

SOCs-SHU 341

### **Cross-Strait Relations**

The relationship across the Taiwan Strait has been a source of tension in East Asia for decades, not only between Taiwan and mainland China, but also as a potential flashpoint in the relationship between China and the United States. Furthermore, Taiwan's geostrategic position and territorial claims make it of interest to other states in the region. This course aims to introduce students to the complex sources of these tensions and the dynamics of these relationships, all of which are rooted in the two sides' closely linked histories. Students in this course develop a strong grasp of the dynamics of the cross-strait relationship, including the role of the U.S., while honing their critical thinking and analytical skills through focused discussions of the readings and an independent final paper project. Prerequisites: SOCs-SHU 150 Introduction to Comparative Politics or SOCs-SHU 160 Introduction to International Politics or GCHN-SHU 110 The Concept of China.

SOCs-SHU 350

### **Empirical Research Practice**

This is a hands-on course in conducting empirical research in behavioral and social sciences with a focus on quantitative methods. The course consists of two major components: First, students work in teams to address a research question provided by the instructor. The teams then plan a small-scale research project, collect empirical data, analyze the data and present the results in a Poster Session. Research projects can involve an experiment, a survey, an observational study or content analysis of empirical materials. The use of the internet as a data collection venue and source of raw materials to analyze is especially encouraged. Second, students write an individual research plan on a topic of their choosing. In some cases, the research plan can be further developed into a Capstone project. The teams are encouraged to make frequent use of instructor office hours for individual consultations.

Prerequisites: Intro to Psych OR Environment & Society OR Intro to Comparative Politics OR Intro to International Politics (Intro to Psych recommended)

SOCs-SHU 360

### **Urban Sociology**

Are cities sites of individual opportunity and rich communal life, or sources of individual pathology and community decline? What social, economic, and political factors promote one outcome or the other? How do different groups fare in the urban context, and why? This course approaches the city from a social scientific perspective. It offers an introduction to sociological theories on the city and empirical strategies for studying the city. Students will participate in a group research project on Shanghai as part of the course requirement. A previous course in Social Science methodology or equivalent preparation is required.

Prerequisite: SOCs-SHU 141 or SOCs-SHU 210 or SOCs-SHU 248 or SOCs-SHU 318 or SOCs-SHU 350 or instructor's permission.

SOCs-SHU 400

### **Topics in Social Policy**

Check Albert for various relevant topics each semester.

SOCs-SHU 401

### **Social Science Capstone Seminar**

(4 credits) Students design and conduct an independent research project in their area of focus using the theories, methods, and data with which they have become familiar over the course of completing the major. Open only to Social Science majors in the senior year.

SOCs-SHU 410

### **Social Science Capstone Honors Seminar**

(2 credits) This seminar prepares candidates for major honors in Social Science to enroll in the Honors Independent Study in the spring semester of the senior year. In this seminar, students develop a research question, select a methodological approach, assemble a working bibliography, and identify a faculty supervisor for the spring semester independent study.

Open only to seniors who have been admitted to honors candidacy in Social Science.

SOCs-SHU 411

### **Social Science Honors Independent Study**

Candidates for major honors conduct independent research under the supervision of a faculty member in the Social Sciences. Open only to seniors who have been admitted to honors candidacy in Social Science.

Prerequisite: SOCs-SHU 410, Social Science Capstone Honors Seminar.

SOCs-SHU 420

### **Topics in Environmental Studies**

Check Albert for various relevant topics each semester.

SOCs-SHU 421

### **Topics in Applied Air Quality Research**

This independent study course provides students with an opportunity to work with Dr. Kevin Cromar on applied air quality research projects. Potential projects cover a wide range of disciplines including economics, computer science, electrical engineering systems, epidemiology, public health, policy analysis, graphic design, marketing, and environmental studies. Students are able to work in teams or individually based on interests and assigned project. No previous research experience is needed and successful students will have the opportunity for continued research opportunities with the Marron Institute at NYU. All projects will be part of ongoing research efforts at the Air Quality Program directed by Dr. Cromar. Interested students should contact the professor for more information.

SOCS-SHU 426

#### **Poverty and Inequality Around the Globe**

This seminar examines the causes and consequences of poverty and rising inequality around the globe. Students will study the ways in which poverty and inequality are shaped by multifaceted contexts; understand the theories underlying strategies and programs which address key poverty and inequality issues faced by many developed, developing and least developed countries; and learn about different countries' experiences addressing their own poverty and inequality issues. We consider philosophies of global justice and the ethics of global citizenship, and students are expected to critically reflect upon their own engagements with poverty relief activities and aspirations for social changes. Students should be prepared to tackle advanced social science readings, analysis, and writing. Open to seniors, and to other students with instructor's permission.

There are no prerequisites for the class although students should be prepared to tackle advanced social science readings and analysis.

SOCS-SHU 430

#### **Capstone Seminar: China and Politics**

This seminar supports students in pursuing substantial, independent research projects focusing on China and its politics, broadly defined. Over the course of the semester, students formulate research questions, review relevant literature, gather data, and write and revise research papers, all in intensive individual consultation with the instructor. Seminar discussions in the first half of the semester, while students are formulating their projects and gathering data, focus on short readings and examples exploring different ways to approach the study of China. In the second half of the semester, students present preliminary findings and drafts for feedback from their peers and the instructor.

Department Consent Required.

SOCS-SHU 431

#### **Capstone Seminar: Politics, Political Economy, and International Relations**

In this seminar students design and conduct independent research projects with a focus on international political economy, international relations, and the intersection of global, regional, and domestic politics. Each project, tailored by individual students with the input from the instructor, will include a well-formulated research question, literature review, theoretical framing, methodological design, and analysis of information relevant to the research question. Topics generally will fall within the scope of international and comparative politics and political economy in the context of cross-disciplinary studies in Social Science.

Department Consent Required.

SOCS-SHU 432

#### **Capstone Seminar: Psychology and Global Health**

Students design and conduct an independent research project in psychology or global health using the theories and methods with which they have become familiar over the course of completing the major.

Department Consent Required.

SOCS-SHU 440

#### **Topics in Anthropology**

Check Albert for various relevant topics each semester.

SOCS-SHU 445

#### **Topics in Society, Health & Medicine**

Check Albert for various relevant topics each semester.

SOCS-SHU 997

#### **Independent Study**

Check Albert for instructions.

GCHN-SHU 243

#### **Chinese Environmental Studies**

As the 21st century began, pundits debated whether, like the 20th, it would also be "America's century," whether China's remarkable economic rise would make it "China's century," or, perhaps, one seeing the development of "Chimerica." At the same time, it was also said that environmental limits to development will be the primary shaper of countries and their fortunes—with China (and India), with huge population and rapid development, and the U.S., with high per capita consumption, as keys to the future of the planet. This course will study China's environmental challenges and governance in the context of America's own environmental challenges and governance system,

and in the context of the challenges to the two countries as the primary sources of the world's greenhouse gas emissions. We will consider how developments may shape business, government, and culture, and the ways in which China and America may learn from one another.

Prerequisite: None.

LWSO-SHU 491

#### **International Investment Transactions in Developing Countries: China, Africa, Latin America**

We will be exploring issues frequently encountered by international legal counsel and business executives and government officials in cross-border investment transactions involving developing countries. We will look particularly at issues in China, Africa and Latin America. Topics will include: multilateral development institutions and development banks, state owned companies and "state capitalism"; government ministries and the approval process, national security review and anti-trust review, land and environmental issues, labor relations and unions, management compensation, due diligence and corruption, intellectual property protection, corporate governance and ownership structures, disclosure in public offerings, foreign exchange controls, private equity structures, cross border financing, political risk and political risk insurance, bilateral investment treaties, dispute resolution and choice of law, and (throughout) the role and ethical obligations of local and international legal counsel and business advisors. The goal is to develop the instincts of an international transaction counsel or advisor, and increased awareness of the special issues facing developing countries in attracting foreign investment.

The course is in three main parts, with an interlude. First we will study the highly developed and evolving Chinese inbound foreign direct investment regime. Second we will look at risk issues in cross border project financing.

An interlude will follow to "listen in" on high-level negotiations, with examples from presidents and secretaries of state and treasury. Finally we will reverse our perspective and consider issues from the standpoint of African or Latin American countries considering Chinese outbound investments. There will be several case studies. Schedules permitting, we also hope to have several guest talks by practitioners.

We will work with Chinese and other foreign laws in translation, business school case studies, journalistic and academic analysis, and examples of legal documentation developed by global law firms. All reading materials will be in English. The class format will be a combination of lecture and seminar discussion, with an emphasis on student preparation and participation.

Prerequisite: This is a senior seminar, open to seniors, or to juniors subject to space with instructor's permission.

LWSO-SHU 498

#### **Law, Society and Legal Philosophy in China**

(2 credits) This course aims to examine Chinese law and legal institutions through the interaction between law and society, as well as through the lens of traditional legal philosophy. The course will be divided into two parts over the 12-week semester. The first half of the semester will address Chinese law in action, providing an overview of a wide range of topics including development of courts and the legal profession, environmental law, access to justice and social protest. This portion of the course will also touch on China's use of mechanisms for regulation and dispute resolution that do not fall within the traditional ambit of formal law. Underlying questions for this half of the course will address the role of law in Chinese society, the factors that are shaping the country's legal institutions, and how China's unique model of governance will impact the development of its legal system. The second half of the course will focus on the foundations of traditional Chinese legal philosophy, beginning with the political transitions of pre-Qin period China and the competing schools of political philosophers who would come to dominate legal philosophy in traditional China over the next 2,000 years. Primary texts by Legalist and Confucian philosophers will be examined from a comparative perspective in order to understand their general legal philosophies, and the course will also address how each school treated particular legal issues, such as the conflict between the interest of society and the interest of the law. To understand the implications and influences of these ideas, the course will study real legal codes and judgments in traditional China. The goal of this portion of the course is not only to understand the legal philosophies of these thinkers and how they influenced traditional Chinese legal practices, but also see their relative merits and shortcomings to one another and to Western legal ideas. At the completion of this course, students will gain an understanding of traditional legal philosophy, and how it has influenced the law and legal institutions of contemporary Chinese society.

LWSO-SHU 9251

#### **Topics in Law & Society: Law Culture and Politics in China**

In its remarkable rise, China studies the world. But, in applying lessons from abroad, China often modifies them to reflect China's own cultural values and traditions, as they have evolved over millennia. In Beijing and Shanghai as well as Washington and New York, officials, experts, and students use the same global vernacular of "governance" to discuss approaches to pressing public problems. Students in either country will hear terms (often in English) such as rule of law, democracy, transparency, environmental sustainability, and CSR (corporate social responsibility.) But the practical meanings of such terms are shaped by what might be called different "operating systems."

This course will seek to provide students with basic "vocabulary" (words, concepts and frameworks) of history, political, legal and economic systems needed to begin to "translate" between American and Chinese governance systems. To do so, the course will draw on the diverse backgrounds of NYU Shanghai students, and students' daily experiences as students in at NYU Shanghai. We hope to learn about China (and the US), but also to reflect—in the light of 911, the 2008 global economic crisis, the explosion of social media and cyber issues, and climate change—on the ways in which NYU Shanghai students may learn how to navigate and help address the 21st century's core challenges.

Prerequisite: None.

PSYC-SHU 101

#### **Introduction to Psychology**

This course highlights the fundamental principles and interesting experiments within the field of psychology, aiming to help students understand mind and behavior of themselves and others. It provides a comprehensive overview of scientific study of thought and behavior, covering a wide range of topics such as the biological and evolutionary bases of behavior, sensation and perception, learning, memory, intelligence and thinking, lifespan development, emotion and motivation, human personality, social behavior, behavioral disorders, and psychological treatment of disorders. Opportunities to apply knowledge gained in class are available through various in-class and out-of-class activities. By the end of this course you will have gained a much better understanding and appreciation of who you are and how you work.

Prerequisite: None.

PSYC-SHU 234

### **Developmental Psychology**

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This course is designed to give students a comprehensive overview of developmental psychology following a chronological approach, covering normative growth and development from conception to adolescence. Specifically, we will examine physical, cognitive, social, and emotional development with an emphasis on psychosocial development in context. This course not only covers major theories and research findings on human development, but also provides students with the opportunity to appreciate the practical significance of sound theory and research.

Prerequisite: PSYC-SHU 101.

PSYC-SHU 329

### **Parenting and Culture**

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Examination of parenting views & practice across socio-cultural groups, discussion of similarities & differences in parenting around the globe, how parenting changes over the life course of the child, & how parenting shapes children's development.

Prerequisite: PSYC-SHU 101.

PSYC-SHU 337

### **Adolescent Development**

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This course covers physical, cognitive, and socio-emotional development of adolescents in diverse contexts. Specifically, changes and characteristics of key developmental domains of adolescents, such as family, peer, and romantic relationship, are discussed, with particular attention to contextual factors that influence adolescent development such as culture, gender, and social class. This course is for students who have acquired the basic principles of psychology as well as fundamental knowledge of human development.

Prerequisite: PSYC-SHU 101, and PSYC-SHU 234 as a pre- or co-requisite.

PSYC-SHU 349

### **Cultures of Psychology**

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The purpose of this course is to critically examine the ways that culture—with regard to race/ethnicity, gender, and social class—has shaped major theoretical perspectives in psychology, and to familiarize students with the impact of cultural factors on the evolution of various psychological constructs. Students will explore the multifaceted nature of their own cultural backgrounds and apply it to the establishment of their worldviews. Critical examination of the process of psychological research and scholarship will be emphasized.

Prerequisite: PSYC-SHU 101.

PSYC-SHU 352

### **Cultures of Psychology**

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The course provides an overview of empirical research into the psychology of human sexuality. The course surveys findings from basic research, theories regarding human sexuality, sexual functioning and its psychological correlates, and clinical research into sexual problems and their treatment. Topics covered include psychological aspects related to sexual and gender minorities, including affirmative counseling approaches for LGBTQ individuals; current scientific understanding of sexual variations as well as sexual harassment and coercion; sex as a commodity; and psychological aspects related to HIV/AIDS and its prevention. The study of human sexuality is inherently multidisciplinary as sexuality is a biopsychosocial phenomenon. Even though the course focuses on the psychological level of analysis, cultural, societal and legal aspects related to sexuality in a global context are relevant to many of the topics covered. As an example, we explore the topic of sexual racism/racial fetishism as well as legislation related to sexuality in different societies.

Prerequisite: PSYC-SHU 101.



CEL-SHU 10

## Community Development & Service-Learning

This zero-credit course is a required component of NYU Shanghai's Dean's Service Scholars program. This course serves as an introduction to issues related to social/community development and community service, and includes a practical community service experience, which will involve visiting one of five service sites during Spring Break (April 2 - 10), and assisting with the work of selected non-governmental organizations (NGOs). Taking a "service-learning" approach, this course integrates the study of topics and concepts with the development of skills relevant to social/community development through practical community service experience and critical reflection on this experience.

CEL-SHU 101

## Topics in Service Learning: Migrant Families, Children and Youth in Shanghai

This course is taught in conjunction with students' participation in a weekly service experience (2 hours a week and at least 20 hours in total of service at the site) working with migrant children and their families. The overarching goal of service learning is the integration of service activity that meets community needs with academic material and critical reflection. As such, this course will assist students in understanding the individuals with whom they are working and the social/environmental contexts in which they live through course content and personal reflection on service. Students will learn about internal migration and urbanization in China and resettling migrants in the city of Shanghai. The course will touch on the fundamentals of engaging individuals in a helping situation; theories related to child development; implications of gender, culture and migration; impacts of multiple social contexts: the family, peers, school, social agencies and community; understanding the effects of social oppression on people's lives: poverty, sexism, classism, etc. Students will be expected to do journal writing and will have opportunities in class to share their experience. Class will meet weekly on campus for 75 minutes and students will be required to work for 2 hours/week at a local volunteer center that serves youth from migrant families.

Prerequisites: None

CEL-SHU 101A

## Topics in Service Learning: Rural Education in China

This program aims to provide a unique summer camp experience for rural primary school students in Songpan County, Sichuan Province while helping NYU Shanghai students learn about rural education and curriculum development and practice leadership, teamwork, and facilitation skills. Songpan County is located in northwest Sichuan Province. It is home to diverse ethnic minority populations, including Hui (Muslim), Tibetan, Qiang, and Han. The program's summer camp, led by NYU Shanghai students, will target 5th & 6th graders and take place at our partner school, Shi Li Primary School. The program provides training to help members make the most of this learning experience and prepare thoroughly for the responsibilities. Readings and workshops help members to learn about rural education, curriculum design, and the socioeconomic conditions of the local area, as well as teamwork skills. Team members will decide on the overall theme of the summer camp based on what they learn and design curriculum suited to the local context.

LWSO-SHU 212

## Introduction to Chinese Law

(2 credits) This is an NYU Law School course that has limited space for qualified upper-class undergraduate students. Students must complete an application to enroll. Applications will be reviewed by NYU Law's Office of Global Programs in collaboration with the relevant faculty members. For instructions on how to enroll, please request an application from [shanghai.registrar@nyu.edu](mailto:shanghai.registrar@nyu.edu). Specific questions regarding the course can be directed to the NYU Law Office of Global Programs at [law.globalstudents@nyu.edu](mailto:law.globalstudents@nyu.edu). (Though this course is offered by the Law School, it does not count for graduate course credit.) The course provides an overview of Chinese legal institutions. It takes an integrative, evolutionary, and comparative approach. Firstly, it integrates studies of black-letter law with observations of Chinese society. In particular, it endeavors to direct students to explore whether, what, when, where, and how law shapes the behaviors of the Chinese governments and citizens. Relatedly, how law can in turn be changed by the society. Secondly, it investigates the past, present and future of Chinese law. Similar to the Chinese economy, the Chinese legal system is evolving very rapidly. "No man ever steps in the same river twice." It is therefore more important to understand how the Chinese legal system changes than to know what it is. Thirdly, it takes China as a case to understand law and development, in which situation comparison, or reference to other countries, is unavoidable. It also encourages students to understand Chinese law from their own background, i.e., their understandings of American law and legal theory.

LWSO-SHU 205

## Law & Entrepreneurship

This would be an introductory course covering all of the main legal challenges in starting a new global business. This course is designed to provide a broad understanding of the judicial systems as well as the legal issues entrepreneurs face outside of the system (e.g., formation, ownership, product risk, intellectual property protection). To show these challenges and principles, assignments for the course include readings, case discussions, and interaction in presentation sessions as presenters and questioners. It is not enough for students to learn mere legal rules; this course endeavors to teach them how to understand how said rules apply in a real world setting and how entrepreneurs can use the law to minimize risk and liability. Thus, in addition to the lectures and readings each week, there is a case study that demonstrates how legal issues work in the context of a global start-up business.

Prerequisite: None.

**Traditional Chinese Political and Legal Philosophy**

This is an NYU Law School course that has limited space for qualified upper-class undergraduate students. Students must complete an application to enroll. Applications will be reviewed by NYU Law's Office of Global Programs in collaboration with the relevant faculty members. For instructions on how to enroll, please request an application from [shanghai.registrar@nyu.edu](mailto:shanghai.registrar@nyu.edu). Specific questions regarding the course can be directed to the NYU Law Office of Global Programs at [law.globalstudents@nyu.edu](mailto:law.globalstudents@nyu.edu). (Though this course is offered by the Law School, it does not count for graduate course credit.)

Course Description: China in the so-called pre-Qin period (770 B.C.E.-221 B.C.E.) experienced a profound political transition. Competing schools of political philosophers offered proposals to restore order, which would lay the foundations of the political and legal framework for traditional China in the next 2,000 years. The so-called "Legalists" were advocates of the rule of law, although critics claim that they were actually advocates of the rule by law. Early Confucians criticized the Legalist approach and proposed the rule of virtue, although this proposal has often been blamed for the lack of the spirit of law in traditional and contemporary China. Both schools advocated an equality-based meritocracy, but they differed on what should be considered merits. In this course, we will examine some primary texts by the Legalist philosopher Han Fei Zi and some early Confucians (mostly Confucius and Mencius) in order to understand their general legal and political philosophy. We will also investigate how they treated particular legal issues such as the conflict between the interest of society and the interest of the law, laws of international relations, etc. To help us understand the implications and the influences of these philosophical ideas, we will also look into some real legal codes and legal judgments in traditional China. Through these studies, I hope that not only can we understand the legal philosophies of these thinkers and how they influenced traditional Chinese legal practices, but also see their relative merits and shortcomings to each other and to Western legal ideas.

**Public Speaking in a Leadership Context**

The purpose of this course is to provide a competitively chosen cohort of NYUSH sophomores with at least a 3.0 GPA a unique opportunity to practice and improve their public speaking and public presentation skills within a leadership development context. All students will take the class together and enrollment is capped at 24 students. Students will submit applications to the class during the spring/early summer of 2015, stating the reasons for their interest, and receive word of their selection by the NYUSH administration by early July. Students will be instructed on various public speaking tips and will be given assignments outside of class and various exercises in class to learn what goes into an effective speech or presentation and how to enhance their public speaking skills. They will read, listen to, and analyze some of the world's greatest speeches; take part in both individual and team-based public speaking exercises; and receive detailed feedback from the instructor and classmates on content, style, organization, and delivery. The aims are that by the conclusion of the class, students will be familiar with numerous different types of speeches and presentations, will understand how leaders can use their public speaking skills to good effect, will have learned both how to employ positive speech techniques and to minimize negative speech habits, and will have more confidence in their own public speaking ability.

The course will be offered for 2 credit hours. Attendance is mandatory, as no part can be repeated or replicated. Application required.

# NYU Shanghai Leadership and Faculty

NYU Shanghai has a world class faculty and administration in Shanghai as well as a large cohort of affiliated faculty from across NYU's Global Network. At NYU Shanghai professors are scholars, scientists, and artists who are proven and innovative teachers and leaders of international standing in their fields. They have been appointed because of their commitment to cutting-edge research and engaged teaching methods to build the university of the future, NYU Shanghai.

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