

NEW YORK UNIVERSITY SHANGHAI  
上 海 纽 约 大 学

UNDERGRADUATE  
BULLETIN  
2016 · 2017





**UNDERGRADUATE BULLETIN**  
**2016-2017**

1555 Century Ave  
Pudong, Shanghai  
China 200122

The policies, requirements, course offerings, schedules, activities, tuition, fees, and calendar of the school and its departments and programs set forth in this Bulletin are subject to change without notice at any time at the sole discretion of the administration. Such changes may be of any nature, including, but not limited to, the elimination of the school or college (including NYU Shanghai), programs, classes, or activities; the relocation of or modification of the content of any of the foregoing; and the cancellation of scheduled classes or other academic activities.

Payment of tuition or attendance at any classes shall constitute a student's acceptance of policies in this Bulletin and the administration's rights as set forth in the above paragraph.

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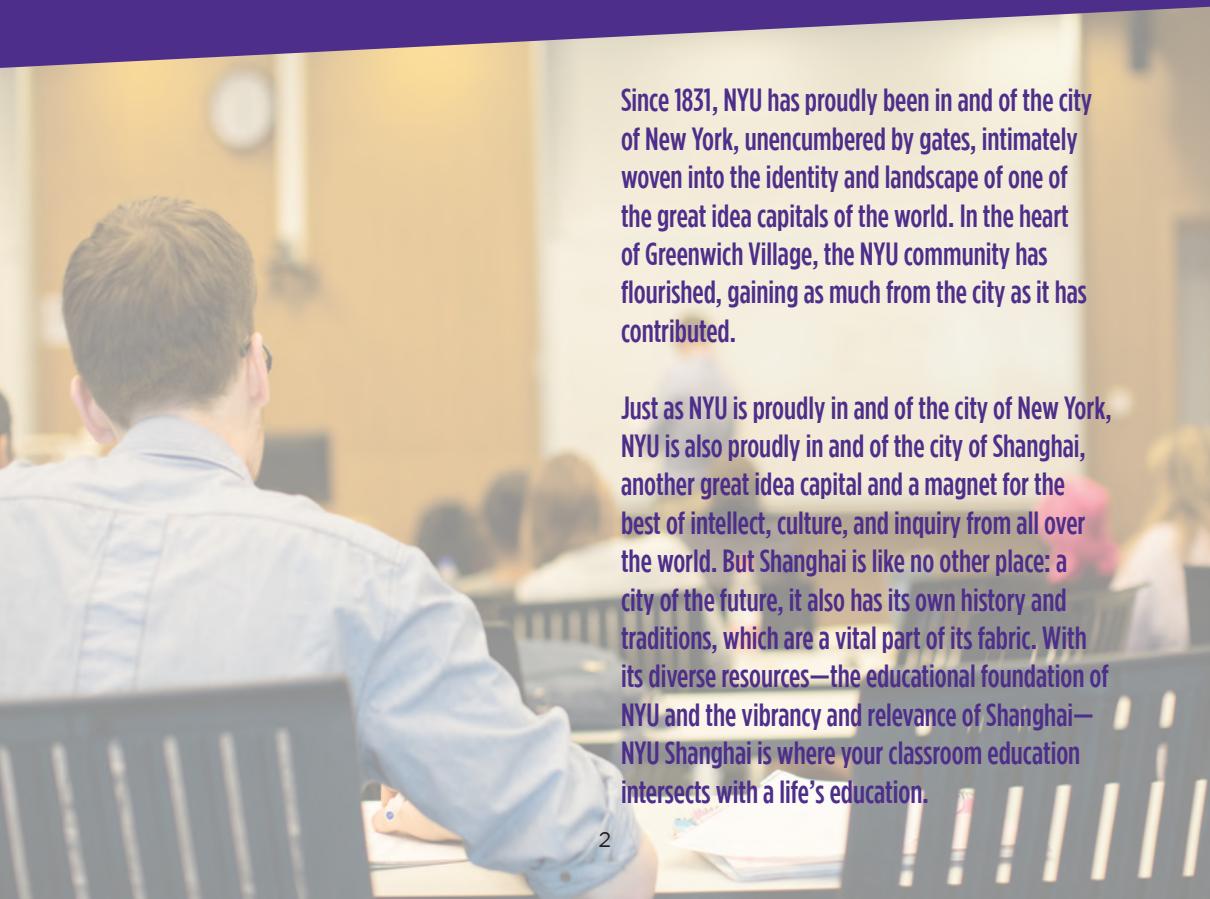
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# { Part I }

## 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. Three 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 integration. Students explore our social and cultural foundations through courses that are global in scope, with writing instruction woven in throughout, rather than delivered in discrete, unrelated courses. Mathematics and science are a part of every student's education, and those who specialize in the sciences will begin their studies with an innovative foundational course that brings together the basic sciences.

### ***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.

### ***Global in Nature***

As a member of NYU's global network, you literally have the world at your fingertips; and can reach out and incorporate it into your coursework. The opportunities available to you as an NYU Shanghai student to integrate study away into your program of study are unparalleled in higher education.

## PARTNERS

### **East China Normal University**

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**

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**

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

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

The NYU Shanghai residence halls is located in the Pudong area of JinQiao. Housed in three towers of the Green Center complex, we are located within an international hub with easy access to shops and restaurants both local and international. 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

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.

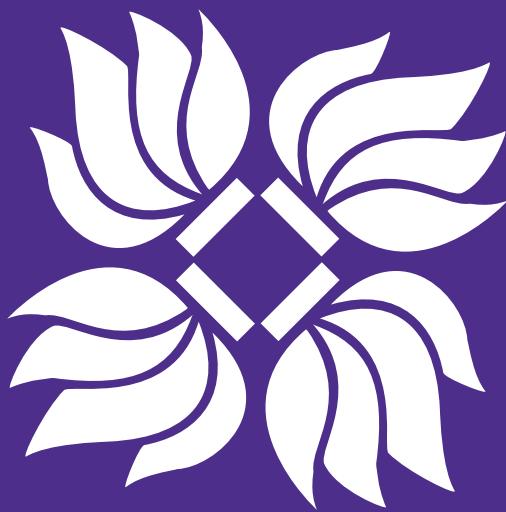
And beyond the city limits of Shanghai, the country of China is available: the Great Wall, the Lingyin Temple, the Forbidden City, the Chengdu Panda Reserve, and more. China is, after all, a country with a vast, varying geography and demography, and a history no longer confined to just the pages of a 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 academic excellence, extracurricular activities, teacher and counselor evaluations, and a demonstrated interest in global citizenship, service, and leadership. US/ International students will also be required to schedule a Skype interview with a member of the Shanghai Admissions team for consideration.

NYU Shanghai Office of Admissions in Shanghai  
(9am – 5pm China Standard Time)  
Tel: +86 21-6223-5037

NYU Office of 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*—two to three 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.

## **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 educational opportunities to all talented students. NYU Shanghai is committed to providing the best financial aid package available to avoid financial hardship to families. As such, we invite all applicants, regardless of citizenship, to apply for financial aid through NYU Shanghai.

## **Transfer Applicants**

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NYU Shanghai is not currently accepting transfer applications from students external to NYU.

## **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 students from the New York and Abu Dhabi campuses may attend NYU Shanghai as full time students for one or more semesters through the Study Away program run through NYU's Office of Global Programs.

## **Special (Visiting Students)**

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Students from other four year accredited universities may attend NYU Shanghai as full time students for one or more semesters through the Study Away program run 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

NYU Shanghai is not currently accepting non-matriculated special students.

## NYU January and Summer Term

Starting in their freshman year, students are eligible for NYU January term and summer terms. NYU's January and Summer terms allow students more flexibility and new 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.

## Advanced Standing

NYU Shanghai does not award credit for work completed at another college or university.

## Credit by Examination

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 substitute a higher level course

for an introductory course based on their performance on one of these tests.

## 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
- 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

Please apply in accordance with the following deadlines:

Milestone	Date
<i>Early Decision I</i> Application Deadline Notification Deadline Response to an offer of admission	Nov 1 Dec 15 Jan 15
<i>Early Decision II</i> Application Deadline Notification Deadline Response to an offer of admission	Jan 1 Feb 15 Mar 15
<i>Regular Decision</i> Application Deadline Notification Deadline Response to an offer of admission	Jan 1 Apr 1 May 1

## How to Apply for Financial Aid

All applicants (regardless of citizenship) will need to submit the CSS/Financial Aid

PROFILE application (and Noncustodial PROFILE, if applicable) for NYU Shanghai need-based grant consideration by:

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

All U.S. Citizens and/or permanent residents must complete the Free Application for Federal Student Aid to be considered for U.S. federal financial aid by:

- All Freshman Applicants: February 15th (to receive a final financial aid award in April)

# Chinese Applicants Admissions Regulations

## 上海纽约大学2016年招生方案（中国大陆学生）

融合中美两国教育精华的上海纽约大学，将为优秀学生提供在全球化背景下全新的、全英语的高等教育模式。上海纽约大学实行通识教育（博雅教育）。所有学生前两年均在上海学习，大三起可前往纽约大学全球教育体系中的其他校园和学习中心学习，大四再回到上海完成学业。学生在大一阶段学习涵盖不同学科的核心课程，大二确定专业，并把深入的专业学习和其他学科的学习相结合，以培养宽广的知识面。

根据教育部有关规定，借鉴纽约大学招生特色和经验，上海纽约大学在全面审视每位申请学生的综合素质基础上，通过“校园日活动”选拔一批具备强烈的求知欲以及开拓创新精神、热爱尝试新事物、拥有“世界公民”素质的优秀学生，而非采用仅仅基于高考成绩的招生录取模式。

### 一、招生对象

能适应国际大都市竞争环境、向往走向世界、渴求新知识、勇于挑战新事物、学习成绩优异的高中毕业生。

符合[2016]年高考报名条件并参加[2016]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，将邀请其中部分优秀的申请学生参加“校园日活动”，并在“校园日活动”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[2016]年继续面向全国招收151名学生，招生计划不做分省安排，各省招生名额不设上下限，在所有申请学生中择优录取。各省市[2016]年招生专业目录中的上海纽约大学招生计划，仅用于学生高考志愿填报，与各省市最终录取人数无关。

### 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，都必须通过美国高校本科入学在线申请系统Common Application ([www.commonapp.org](http://www.commonapp.org))，于

[2016年1月1日]前填写并提交通用申请。

注：通用申请填写比较复杂，且截止日期临近时系统繁忙，建议学生至少提前一周提交。

#### 2. 填写《上海纽约大学校园日活动申请表》

通用申请提交完成后，学生须下载、填写并打印《上海纽约大学2016年校园日活动申请表》，并用通用申请的注册邮箱，将申请表以电子邮件附件形式发送至上海纽约大学招生办公室：[shanghai.admissions@nyu.edu](mailto:shanghai.admissions@nyu.edu)，邮件名称为：省份 + 姓名 + Common App ID。

#### 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。每页材料须在右上角空白处注明申请学生的Common App ID，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[2016]年校园日活动申请表》

（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）、年级排名（按文理排名，如中学不提供排名请出具证明）、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公章。

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）主要获奖证书复印件及其他证明自己特长和优势的材料（非必须）。

申请材料须于[2016]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（以当地寄出邮戳为准）。所有申请材料恕不退还，学生请自行备份。

邮寄地址：上海市世纪大道1555号上海纽约大学招生办公室 邮编：200122

联系人：赵老师 联系电话：021-20595599

#### 4. 在线填写个人信息

所有申请学生还须在[2016年1月10日至1月20日间]，进入校园日活动登录页面，用本人出生日期及Common App ID登录，按要求在线填写个人中文信息。

注：学生申请信息从通用申请系统导入纽约大学学生信息系统后，学生方可登录该页面。学生填写完成后在线提交即可，无需打印。

### 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[2016年1月30日]前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考生的求知欲、亲和力、学习能力、适应能力、交流能力、心理素质、团队精神、表达能力、行为道德等。

“校园日活动”的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，对每位学生进行严格的评价和讨论，并给予符合上海纽约大学要求的学生相应录取政策：

A档预录取：学生须参加[2016]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（或达到学校要求的高考成绩），上海纽约大学即予以录取。

B档待录取：学生须参加[2016]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（或达到学校要求的高考成绩），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、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）

### 七、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：021-20595260

监督邮箱：shanghai.jiandu@nyu.edu

### 八、咨询方式

学校网址：[www.shanghai.nyu.edu](http://www.shanghai.nyu.edu)

咨询热线：021-20595599

咨询邮箱：[shanghai.admissions@nyu.edu](mailto:shanghai.admissions@nyu.edu)

咨询现场：上海市浦东新区世纪大道1555号上海纽约大学咨询中心

官方QQ群：上海纽约大学招生（111393813）

官方微博：[上海纽约大学招生办（新浪微博）](http://weibo.com/nyushadmissions) <http://weibo.com/nyushadmissions>

官方微信：NYUShanghai

# *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 2016-2017. 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 1062. Online payment and wire transfer are to be paid to NYU Shanghai for the exact amount of the tuition and fees required. In the case of 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 2016-2017 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 2016-2017 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 those 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 2016-2017

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

Tuition, Registration and Services Fees*	\$49,062*
Health Insurance**	\$3,496**
Room	\$3,726
Estimated Books and Materials	\$904

#### Indirect Costs: Other educational costs incurred      Cost

Board (Meals)	\$2,484
Estimated Supplies	\$300
Estimated Personal Expenses	\$1,000
Estimated Travel	\$3,750

#### Total Cost of Attendance (Estimated)      \$64,722

\*Tuition, Registration and Services Fees, per unit (19 or more units) \$1,373. This charge will be assessed to students who take over 18 units.

\*\*Health insurance charges vary. The estimated maximum is \$3,496 for 2016-2017. Your direct charges may vary.

## **Special Programs including Study Away**

The tuition paid to NYU Shanghai is the cost of tuition for a semester away in the 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 the cost estimator to get an estimate of their expected cost of attendance per semester.

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

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**

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**

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**

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 next page 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**

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

*For U.S. Students (must have a U.S. passport)*

This schedule is based on the total applicable charge for tuition, excluding nonreturnable fees and deposits.

*Withdrawal on or before the official opening date of the term: **100%** (100% of tuition and fees)*

*Withdrawal on the second day after the official opening date of the term through the end of the first calendar week: **100%** (100% of tuition only)*

**Note:** The first calendar week consists of the first seven (7) calendar days beginning with the official opening date of the term (not the first day of the class meeting).

*Withdrawal within the second calendar week of the term: **70%** (tuition only)*

*Withdrawal within the third calendar week of the term: **55%** (tuition only)*

*Withdrawal within the fourth calendar week of the term: **25%** (tuition only)*

*Withdrawal after completion of the fourth calendar week of the term: **NONE***

**Note:** All fees (including school-related fees) are nonreturnable after the official first day of the semester.

The previous sections pertaining to the refund schedule is not applicable to Chinese and Non-U.S. students. These students should refer to the "Refunds" page on the Office of the Bursar's website located at <http://shanghai.nyu.edu/academics/tuition>.

For summer and January terms the above schedules apply but is accelerated with summer using two day increments and January term one day increments—example the end of the two week refund deadline for partial withdrawal from a full semester course translates to four days in summer and two days in a January Term.

**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 "Refunds" page on the Office of the Bursar's website, <http://shanghai.nyu.edu/academics/tuition>.

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 take the form 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-based and/or need-based scholarships is determined based on a student's prior academic strengths and upon demonstrated financial need, based on results of the financial aid form submitted.

To be considered for financial aid, students must be officially admitted to NYU Shanghai or matriculated in a degree program and making satisfactory academic progress toward degree requirements.

Financial aid awards are not automatically renewed each year. NYU Shanghai scholarship and grant awards are renewed yearly at the same amount as long as: you apply for financial aid each year by the required returning student deadline; continue to demonstrate financial need; make satisfactory progress toward degree requirements; and enroll full time (12 credits or more) each semester.

Please consult <http://shanghai.nyu.edu/admissions/returning> for current details.

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

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 21-6223-5037 for additional information regarding individual scholarship requirements.

## **The College Scholarship Service/Financial Aid 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 submit the CSS Noncustodial parent PROFILE (or the CSS Noncustodial parent PROFILE waiver request with 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.

- Click [here](#) to begin and submit the CSS/ Financial Aid PROFILE
- Click [here](#) to begin and submit the CSS Noncustodial Parent PROFILE (if applicable)
- Students needing a Noncustodial parent PROFILE Waiver Request should contact [shanghai.financial.support@nyu.edu](mailto:shanghai.financial.support@nyu.edu).
- The New York University CSS school code number is **2785**.

### ***Freshman Applicants CSS/PROFILE Deadlines***

	Early Decision I	Early Decision II	Regular Decision
CSS PROFILE	November 15	January 15	February 15
Noncustodial PROFILE (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 must submit the FAFSA in addition to the CSS/Profile Form.

- Click [here](#) 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.
- Do not complete the FAFSA until after January 1st if you are applying for Fall admission.

### *Freshman Applicants FAFSA Deadline:*

	Early Decision I	Early Decision II	Regular Decision
FAFSA	February 15	February 15	February 15
Award Notification	April (to receive a final financial aid award)	April (to receive a final financial aid award)	April

### **Student Responsibilities**

- You must apply for financial aid each year to be considered for need-based financial aid awarded at NYU.
- Consult [www.nyu.edu/financial.aid](http://www.nyu.edu/financial.aid) for all financial aid application deadlines. Failure to meet the NYU Shanghai deadline may result in a reduction of your aid eligibility.
- Use NYU Albert at [albert.nyu.edu](http://albert.nyu.edu) to view/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 will not be returned to you.
- It is important that you understand the conditions of the awards you accept. Contact the Office of Financial Support 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 source. A change in your resources may affect your eligibility for student aid.
- 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 program to fewer points, or if you are enrolled full-time (at least 12 points) but intend to begin part-time (less than 12 points). 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 Office of the NYU University Registrar if you move by updating your contact information via NYU Albert at [albert.nyu.edu](http://albert.nyu.edu). We use the records of the Office of the NYU University Registrar to administer financial aid.

# *Registration, Advisement, and Counseling*

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. Office hours are weekdays from 9 a.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://shanghai.nyu.edu/campus-life/health-wellness/immunization>. 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.

## **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, career and life goals;
- Evaluate progress toward goals;
- Understand curricular 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 their progress as they move through the undergraduate program.

Students are required to meet with their academic advisor at least once each semester 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 freshman 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 any of the following:

- Individual and small-group tutoring in over 30 STEM, Business, and Economics courses;
- Individual writing consultations at any stage of the writing process;
- Academic coaching in areas such as time management, reading & note-taking strategies, and goal setting;
- Workshops on writing, academic skills, and computing languages;
- Group study and conversation circles.

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 counselor throughout the year. An appointment with a career counselor 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 counseling 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 internship 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, some may be paid positions, and some carry academic credit. 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.

## **Independent Study**

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In some majors, independent study that draws on the activity or environment of the internship may be a possibility. Independent study requires a proposal by the student, careful guidance from a faculty member, a body of work which can be evaluated for course credit, and major approval. Students interested in applying for Independent Study Coursework should first meet with a faculty member in that academic discipline. If the proposal is faculty-endorsed, the student should contact the Office of the Registrar for further instructions.

## **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 are the basic set requirements most medical schools in the U.S. request; 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**

### **Foundations of Science I-III**

*(Note: This covers the pre-medical requirements of one year of general biology, one year of general chemistry, one year of general physics, and one year of lab work in each of those areas. Foundations of Physics I and II Honors may be substituted with Physics I and II.)*

### **Organic Chemistry 1 and 2**

### **Calculus and Multivariate Calculus and Ordinary Differential Equations**

In addition:

- 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

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## **PRE-LAW PROGRAM**

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.

## **Health and Wellness Center**

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Health and Wellness services are 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. Health and Wellness counseling staff members provide health-related advice and assistance in workshops, as well as in group and individual psychotherapy.

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. Health and Wellness counselors provide an atmosphere where personal concerns can be examined and discussed freely and confidentially.

## **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 assistance. They should contact the Director of the Academic Resource Center, Cydney Delia ([cydney.delia@nyu.edu](mailto:cydney.delia@nyu.edu)) for assistance in registering.**

# *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 Engineering Systems  
Computer Science  
Data Science  
Electrical Engineering Systems  
Interactive Media Arts  
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 a 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**

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

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

## **The Major**

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.

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 as 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.

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**

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. *(See next page)*

Prerequisite Courses for Declaring a Major

Final grade of C, or current semester midterm grade of B, or higher in:

**Humanities**  
**Social Science**

Global Perspectives on Society

**Global China Studies** any required GCS course

**Biology**  
**Neural Science**

Foundations of Biology 1

**Chemistry** Foundations of Chemistry 2

**Physics** Foundations of Physics 2

**Honors Mathematics** Analysis 1 + Honors Linear Algebra II + Cumulative GPA 3.65 or higher in all classes and in Math classes

**Mathematics** Multivariable Calculus

**Computer Science**

**Computer Engineering Systems**

**Electrical Engineering Systems**

Introduction to Computer Science

**Data Science** Introduction to Computer Programming + Calculus

**Interactive Media Arts** Interaction Lab or Communications Lab

**Business and Finance**

**Business and Marketing**

Statistics for Business and Economics

**Economics** Microeconomics

## **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. The second major is declared in the same way as the first (see above) but not until fall of senior year.

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 completing 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 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 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 in many cases limit study away opportunities.

## **Requirements for Minors**

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Students may minor in subjects outside 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

Shanghai; 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. 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 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.

### **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.

# {Part III}

## Standards and Policies

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*

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 less 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. Chinese national students should take note that when their cumulative earned credits exceed 136 (not including J-Term or Summer coursework), they will be charged additional tuition, registration, and fees for each unit over 136. These additional charges go beyond the standard semester charges.

## **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 many 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 via NYUHome at [home.nyu.edu](http://home.nyu.edu) or file a Change Course Enrollment form in the Registrar's Office.

## **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 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 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 a serious personal problem should contact their advisor.

## **Complete Withdrawals**

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Students who wish to withdraw from all 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, if four calendar months will have passed since the start of the withdrawal, 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 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 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, should contact the Office of Health and Wellness for assistance and the Assistant Dean for Academic Affairs so that the student's professors may be contacted.

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, either at home or out of town, 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.
- Students who, because of religious beliefs, cannot attend class may arrange in advance on an individual basis to be absent, provided the work missed is made up in a manner satisfactory to the instructor(s) of the class(es) 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.

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## **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

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 substitute a higher level course for an introductory course based on their performance on one of these tests.

### Credit for Courses at NYU Shanghai

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)

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-credit courses beyond 128 total credits.

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

NYU 1000-level graduate courses may be taken with approval of the graduate program and NYU Shanghai undergraduate major and following the practices of that bulletin, and 2000-level graduate courses may be taken with written approval of the instructor. If graduate courses are applied toward the completion of requirements for the baccalaureate degree, no advanced credit is allowed for them in the Graduate School.

It is also possible for students to take courses in other undergraduate divisions of NYU and to have credits for these courses applied to the degree in NYU Shanghai.

Students may take a total of 36 credits in other divisions, including any courses for particular minors approved by NYU Shanghai. Students seeking additional credits beyond the 36 point limit must file a petition with the Office of Academic Affairs. This requirement applies to students seeking a third semester away within the global network. In this case the student would submit a plan for their semester(s) abroad for approval.

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.

Also excluded from credit toward the degree are any courses taken in NYU's School of Professional Studies.

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**

NYU Shanghai does not presently accept transfer applicants.

### **Credit for Non-NYU Study Abroad**

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 Committee on Academic Standards.

### **Summer Session**

Students who elect to take summer courses for credits must take them on campus or at one of NYU's Global Academic Centers, including NYU New York, NYU Abu Dhabi, or one of NYU's study away sites. 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 Committee on Academic Standards.

# EXAMINATIONS AND GRADES

## Policies on Examinations

### *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

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.

Student may not be required to take more than two full-period in-class or out-of-class examinations on the same day. It is the responsibility of the student to notify the instructors in a timely manner of his/her circumstances so that appropriate accommodations can be made.

## Final Examinations

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 that start within a 25-hour period. A student who has more than two final examinations scheduled within 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. Take-home final examinations shall be given for any 24-hour period of the student's choosing during the final examination period.
7. 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.
8. 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.
9. 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 instructor, who decides if a request for a grade of Incomplete is warranted. See below for an outline of procedures for taking makeup examinations.

As noted under "Grades" (next page) a student who cannot take the final examination in a course at the regularly scheduled time may be given the grade of Incomplete. The student must discuss the reasons for missing the examination with the instructor and, in the case of illness, must submit a doctor's note to the instructor. The student must ask the instructor to give a grade of Incomplete. Incompletes are not awarded automatically. 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 removed 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 removed 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

Students may obtain their final grades for each semester on Albert via NYUHome at [home.nyu.edu](http://home.nyu.edu).

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 "-SHU") 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

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 (points of A) x 4.0 (point value of A), 4 (points of B) x 3.0 (point value of B), and 4 (points of C) x 2.0 (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

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 course work.

To appeal an assigned grade (only final semester grades are assigned grades, mid-term 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 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 and/or internship during their four years, and no more than 8 credits may be taken in any one major. More specific information can be found under the individual major descriptions.

## LEAVE OF ABSENCE

### General Leave

If a student and their advisor agree that a leave of absence is the best way to proceed given the student's situation, the advisor will assist in the withdrawal from the semester and processing a leave of absence. A student needs to make an appointment with their advisor to discuss his or her particular situation and review the terms of the leave of absence.

A student may request a leave of absence for the fall or spring semester, and must make his or her request prior to the end of the third week of the semester he or she wishes to be on leave. A student who requests a leave after that deadline or who has been out of attendance without first being granted a leave must apply for readmission. Also note that leaves are not granted retroactively for past semesters.

There are no leaves of absence for the summer and January terms, as enrollment during these terms is not required to maintain matriculation in NYU Shanghai.

A student granted a leave within the deadline does not have to make a formal application for readmission as long as he or she returns to NYU Shanghai within the agreed-upon time. The duration of the leave generally will be a minimum of one academic semester, or an equivalent four month period, to a maximum of two academic semesters or the equivalent in months (8 months). An extension or reduction of the leave period may be granted for good cause. Students cannot be reinstated for a particular semester after the registration deadline for that semester has passed. Students who attend another college during the leave may not transfer the credit to NYU Shanghai.

Students are advised to inquire how the leave of absence may affect their scholarship and financial aid award and should contact the Financial Aid Office. If students are on probation when the leave is granted, they will return on probation. Students out of attendance who did not apply for a leave and who wish to return to NYU Shanghai must apply for readmission. (See the Admission section of this Bulletin.)

Students on leave 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, or attend University events. They may visit campus only for scheduled appointments with University faculty or staff.

NYU Shanghai follows the Office of Global Programs policy regarding leave of absence and study away admission. Students who have been on leave from the University must return to their home campus and successfully complete one academic semester (fall or spring) of full-time coursework before enrolling at a Global Academic Center.

### Psychological and Medical Leave

If a student and a counselor or a physician agree that a psychological or medical leave of absence is the best way to proceed given the situation, the counselor or physician should make a recommendation to the Dean of Students and Assistant Provost for Academic Affairs. A student needs to complete the Leave of Absence Petition form. Leave of absence petitions are accepted and reviewed on a rolling basis throughout the academic year.

A Certification of Readiness to Return to School from a Leave of Absence form should be completed by the counselor/therapist or physician, who needs to state clearly that the student is ready to return and that NYU Shanghai is a suitable environment in which to continue his or her academic work. The student must also schedule an appointment with a counselor/therapist or physician at the NYU Shanghai

Health & Wellness Center prior to receiving approval to return. A student granted a leave within the deadline does not have to make a formal application for readmission as long as he or she returns to NYU Shanghai within the agreed-upon time. The duration of the leave generally will be a minimum of one academic semester, or an equivalent four month period, to a maximum of two academic semesters or the equivalent in months (8 months). An extension or reduction of the leave period may be granted for good cause. Students cannot be reinstated for a particular semester after the registration deadline for that semester has passed. Students who attend another college during the leave may not transfer the credit to NYU Shanghai.

Students are advised to inquire how the leave of absence may affect their scholarship and financial aid award and should contact the Office of Financial Aid. If students are on probation when the leave is granted, they will return on probation. Students out of attendance who did not apply for a leave and who wish to return to NYU Shanghai must apply for readmission. (See the Admission section of this Bulletin.)

Students on leave 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, or attend NYU Shanghai events. They may only visit campus for scheduled appointments with NYU Shanghai faculty or staff.

NYU Shanghai follows the Office of Global Programs policy regarding leave of absence and study away admission. Students who have been on leave from the University must return to their home campus and successfully complete one academic semester (fall or spring) of full-time coursework before enrolling at a Global Academic Center.

## **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 average. F is counted in the 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 student's advisor.

## **Petitions**

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The NYU Shanghai Academic Standards Committee will consider petitions of students to waive requirements or modify 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.

*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 a written proficiency/placement survey or 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. Information on placement testing can be obtained from the Office of Academic Advising.

## **Placement Examination for English Language**

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### *Testing and Placement*

Entering students who did not attend a high school where English was the primary language of instruction are placed in an English for Academic Purposes (EAP) and Writing class. In some cases, adjustments in placement may be made during the first weeks of class.

## **Placement Examination for First-year Writing**

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### *Testing and Placement*

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 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 orientation during freshman orientation.

## **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 via NYUHome at [home.nyu.edu](http://home.nyu.edu). 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, NYU's online registration and information system. Albert can be accessed via NYUHome.

A stamped and sealed New York University 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](mailto: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  
New York University 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 requestor.

### ***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 on the calendar available at the Office of the NYU University Registrar's Web page. 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 reflecting the committee's specific 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, 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 study away.

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, including athletic facilities, library and computer clusters (this includes 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**

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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, 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 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 Shanghai 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 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 cell phones, computers, other technology or any other means)
  - providing assistance to acts of academic misconduct/dishonesty (e.g., sharing copies of exams via cell phones, computers, other technology or any other means, allowing others to copy answers on an exam)
  - 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.
3. Any behavior that violates the academic policies set forth by NYU Shanghai.

## **New York University 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 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.

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 professor 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 first offense at NYU Shanghai, the Assistant Dean for Academic Affairs will send the student by e-mail a notice that a second offense will result in a one-semester suspension or a more severe penalty. (The student is also called in to discuss the offense and review the consequences of the disciplinary action.)
4. For cases involving a second offense, the Assistant Provost for Academic Affairs will proceed as follows:
  - a. Upon receiving a second Assistant Dean for Academic Affairs letter concerning a given student, the Assistant Provost will 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 cheating/plagiarism has occurred and if so, will affirm the suspension penalty. It will report its conclusion to the Assistant Provost within three business days.
  - b. If the committee affirms the suspension, the Assistant Provost will send the student by e-mail a suspension letter within two business days of receiving the report. 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 of the suspension as provided in Section 5 (below). The suspension will ordinarily be stayed during the pendency of appeal.
  - c. If the committee does not affirm the suspension, the report will be kept on file for a one-year period.
5. The student in all cases has the right to appeal to the Assistant Provost for Academic Affairs. In the event of an appeal, the Assistant Provost will elicit a written complaint from the faculty member and proceed as described above.

## **Discipline**

Students are expected to familiarize themselves and to comply with the rules of conduct, academic regulations, and established practices of NYU, NYU Shanghai, and any study away site or portal campus as stated in the Discipline Procedures available online.

NYU Shanghai follows the Office of Global Programs policy regarding discipline probation and study away admission. Students currently on disciplinary probation, may be ineligible for study away.

If, pursuant to such rules, regulations, or practices, the withdrawal of a student is required before the end of the term for which tuition has been paid, a refund will be made according to the standard schedule for refunds. Below is a summary of the offenses for which students may be subject to disciplinary charges by the NYU Shanghai Committee on Student Discipline:

1. False representation or forgery of academic documents
2. Deliberate destruction, theft, or unauthorized use of laboratory data, research materials, computer resources, or university property
3. Disruption of an academic event
4. Actual or threatened violence or harassment

Depending on the seriousness of the offense, the following penalties may be imposed after a hearing by the NYU Shanghai Committee on Student Discipline:

*Censure*

Written reprimand for violation of a specified regulation, including the possibility of more severe disciplinary sanction in the event of a subsequent violation of any NYU Shanghai regulation within a period of time stated in the letter of reprimand.

*Disciplinary Probation*

Suspension of privileges or exclusion from participating in extracurricular NYU Shanghai activities as set forth by the NYU Shanghai Committee on Student Discipline for a specified period of time.

*Suspension*

Exclusion from classes, as well as suspension of privileges and exclusion from other activities, as set forth in the notice of suspension for a definite period of time. A student who has been suspended and who is found "not guilty" shall be allowed full opportunity to make up whatever work was missed because of the suspension.

*Dismissal*

Termination of student status for an indefinite period. The conditions for readmission, if any are permitted, shall be stated by the committee in the order of dismissal.

If, as a result of disciplinary action, the withdrawal of a student is required before the end of the term for which tuition has been paid, a refund will be made according to the standard schedule for refunds.

### **Student Grievance**

Students in NYU Shanghai are referred to the “Student Grievance Procedure” applicable to all the schools of NYU as found in the NYU Student’s Guide. NYU Shanghai adheres to all articles of the Student Grievance Procedure.

# *University Policies*

# 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 here. 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 adviser 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 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 the preceding academic year, all graduation moments included. The cutoff for summa cum laude is the GPA included within the top 5 percent of the previous year's graduating class. The cutoff for magna cum laude is the GPA included within the next 10 percent of the previous year's class. The cutoff for cum laude is the GPA included within the next 15 percent of the previous year's class. For example, the necessary GPA level for summa cum laude for students graduating in September 2017 will be based on the GPA cutoff for the top 5 percent of the combined graduates from September 2016, January 2017, and May 2017.

### ***Major Honors***

Students who have completed at least 64 credits of graded work in their major may be awarded degrees with major honors if they complete the designated honors sequence in the major and maintain the requisite grade point average. 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 Conference (URC) held at the end of the academic year, or in a major forum (e.g., oral defenses or presentations) held in conjunction with the URC.

Students with double majors in discrete, unrelated disciplines must complete honors programs in each major for which they seek honors. Students with double majors in interdisciplinary or related fields may, if the two majors concur, convene a joint honors committee to establish an interdisciplinary research program of coursework that culminates in a single thesis. Similarly, in the case of joint majors, the relevant majors must work out an agreement on the requirements for honors and on the supervision and evaluation of students' theses or projects.

### ***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.

## **Diploma Recipient**

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While all students walk across the stage to receive their diploma at the NYU Shanghai Diploma Ceremony, a plaque is presented to the senior selected by the Provost of NYU Shanghai to receive a ceremonial diploma on behalf of all the members of the graduating class at Commencement in New York. Selection is made on the basis of scholarship and/or contribution and service to the graduating class and to NYU Shanghai.

## **Standard Bearer**

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A plaque is presented to the senior selected by the Provost of NYU Shanghai to carry the NYU Shanghai banner at Commencement [in New York]. Awarded on the basis of contribution and service to the graduating class and to NYU Shanghai.

## **Senior Award in Arts and Sciences**

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

## **Senior Award in Computer Science and Engineering Sciences**

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

# {Part IV}

## Academic Overview

# *Liberal Arts*

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 (or general education) curriculum for the 21st century, one that is truly innovative—since its social and cultural courses are global in their scope, since writing is fully integrated into the curriculum rather than delivered in separate courses unrelated to students' other studies, and since mathematics and science are taught in a creative way that integrates these disciplines;
- » 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 August prior to the start of the fall semester. The primary goals of this program will be to introduce students to the inquiry-based approach to learning of NYU Shanghai's liberal arts and sciences curriculum, to provide information and resources to help students settle down in a new living and learning environment, to help students get to know their peers and foster a sense of community among students from diverse places and backgrounds. In addition to lectures and panels on academic learnings, 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 the other campuses in the NYU global network or approved International Exchange Programs (IEPs). Many students study away for two semesters. Students may petition their advisor with a study plan for a third semester. The earliest a student may study away is fall of their junior year and they must be in attendance in Shanghai in their final semester (typically spring of senior year). 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. Many of the courses they need for their major are also offered at these other campuses allowing students to continue to fulfill many of their major requirements and make normal progress toward graduation. Depending on placement, students are required to have completed Elementary Chinese II or 8 credits of English for Academic Purposes (EAP) before they are eligible to study away. Cost of attendance varies between the Global Academic Centers and degree seeking 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

### Humanities

- Humanities
- Global China Studies
- Interactive Media Arts

### Science

- Biology
- Chemistry
- Neural Science
- Physics

### Mathematics

- Honors Mathematics
- Mathematics

### Computer Science and Engineering

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

### Social Sciences

- Business and Finance
- Business and Marketing
- Economics
- Social Science

### Self-Designed Honors Major

## Minors

### Shanghai Minors

- Molecular and Cell Biology
- Genomics and Bioinformatics
- Business
- Chemistry
- Chinese
- Computer Science
- Creative Writing
- Data Science
- Economics
- Global China Studies
- Humanities
- History
- Literature
- Philosophy

- Interactive Media Arts
- Mathematics
- Natural Science
- Neural Science
- Physics
- Social Science

### Global Network University Minors

- Art History Studies
- Art Studies
- Australian Culture and Society
- British Culture and Society
- Central European Culture and Society
- Cultural Studies
- 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 NY 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 six components to the NYU Shanghai core curriculum: Social and Cultural Foundations, Mathematics, Science, Algorithmic Thinking, Writing, and Language. In each of these areas, the needs of each student will be carefully assessed upon arrival and a program of study will be developed to address them.

# 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.

**Cultural Foundations:** *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. *Perspective on the Humanities* is also designed to reinforce and advance the writing and critical thinking skills begun in the first year writing seminar; in addition to satisfying one Cultural Foundations requirement, this course satisfies one of two writing requirements (see “Writing”). The course also includes a four-part evening event series with lectures, film screenings, and presentations of collaborative student work. 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 which may include courses in Chinese art and 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.

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.

- AP Calculus AB or BC: Score of 4 or higher
- AP Statistics: 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

# Mathematics 2

# 3

## 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.

<b>Core Curriculum Science Category</b>	<b>Can be fulfilled by these exams (though no credit is given)</b>
Science, Technology and Society (STS)	<ul style="list-style-type: none"> <li>• AP Environmental Science: Score of 4 or higher</li> <li>• IB Environmental Systems and Societies: Score of 6 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: Score of 6 or higher</li> <li>• A Level Psychology: Score of B or higher</li> </ul>
Experimental Discovery (ED) AND Science, Technology and Society (STS)	<ul style="list-style-type: none"> <li>• AP Physics, Chemistry, Biology: Score of 4 or higher</li> <li>• IB Biology, Chemistry, Physics: Score of 6 or higher</li> <li>• A Level Biology, Chemistry, 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: Score of 4 or higher</li> <li>• NYU Shanghai Placement into Introduction to Computer Science</li> </ul>

# 4 Algorithmic Thinking

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

**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

# Writing

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.

**Required courses:** Students must complete two one-semester writing courses. The first-year writing course, offered during spring term, introduces students to academic writing and inquiry. Students must complete the first-year writing course 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”). The first-year writing course is a prerequisite for *Perspectives on the Humanities*.

**Fall 2016 Perspectives on the Humanities Topics** (topics may change from year to year)

- American Superheroes
- Beyond Nature
- Brutes, Monsters, Ghosts, and Other Troubling Creatures
- Diasporas, Minorities, and Human Rights
- Embodied Language
- Expatriate, Immigrant, Refugee
- Go West!
- “Innocents Abroad”: Youth, National Identity, and the Travel Narrative
- Journeys and Encounters
- Language, Identity, and World Englishes
- Mutant Futures: Cultural Transformations and (Re)conceptualizations of Time
- Public Moralists from Socrates to Chomsky
- Sino-Western Literary Exchanges
- Tales of Gender and Power
- The Truth Is Out There?

# 6

## Language

Language study is central to the educational mission of NYU's global network. Our goal is for all NYU Shanghai students to be fluent in English, the language of instruction, and for non-native Chinese speakers to develop as much proficiency in Chinese, the language of community, as their major course of study

allows; with a minimum requirement of successful completion of the intermediate two level of Chinese or demonstrate equivalent competency 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 classs 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 succesfully 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:** For students who place into it (see page 50), the English for Academic Purposes Program at NYU Shanghai is as 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 topics-based seminars. 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.

Students are required to take 8 credits of EAP in their first two years, following a two-semester sequence from EAP I to EAP II. EAP I must be completed in the first year; most students will complete a 4-credit EAP seminar in fall term. A small number of students taking course sequences in the sciences will be able to take two 2-credit versions in the first year. Advisors will alert students if they are eligible for the 2-credit seminar. Students must take EAP II before the end of their second year, and are not eligible to study away until it is successfully completed. Students who demonstrate exceptionally strong competence on all learning outcomes as they complete EAP I may be recommended for exemption from EAP II. Exemptions are rare and most students should expect to complete 8 credits.

#### **English for Academic Purposes Courses:**

- English for Academic Purposes I
- English for Academic Purposes II

#### **EAP I Topics for Fall 2016** (course topics may change from semester to semester)

- Business in the 21st Century
- Cities and Urban Consciousness
- Consumerism, Alienation, and Happiness
- Narratives of Science
- 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/ ECON-SHU 211/ GCHN-SHU 342	The Political Economy of East Asia: China's Development in a Comparative Perspective
CCSF-SHU 120	Rise of Modern China, The (Modern China and the 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
CCSF-SHU 124	(China's Political Thought in the Post-Maoist Era) 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 133	Governing the Local
GCHN-SHU 110	Concept of China
GCHN-SHU 224	Chinese Maritime History
GCHN-SHU 231	Social and Cultural Debates
GCHN-SHU 240	Modern Chinese Governance
GCHN-SHU 252	20th Century East-Asia-US Relations
HIST-SHU 120	The Mongol Conquest in World History
HIST-SHU 153	History of Modern China since 1840
HIST-SHU 312	China Encounters the World
HIST-SHU 325	The New Cold War History
HUMN-SHU 366/266	Shanghai Stories
INTM-SHU 193/ MCC-SHU 9993	Chinese Cyberculture
INTM-SHU 250	Special Topics in Digital Humanities: Street Food and Urban Farming
RELS-SHU 9270	Religion and Society in China
SCA-SHU 9634	Global Connections: Shanghai
SOCS-SHU 150	Introduction to Comparative Politics
SOCS-SHU 160	Introduction to International Politics
SOCS-SHU 251/ LWSO-SHU 9251	Topics in Law and Society: Law, Culture, & Politics in China
SOCS-SHU 272	The United States Constitution
SOCS-SHU 450	Topics in Environmental Values and Society Chinese Environmental Governance

**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 380	Projects in Photography: China
ART-SHU 1910	Projects in Studio Art: China
ART-SHU 9077/	Contemporary Art and New Media
CCCF-SHU 128	
CCCF-SHU 121	History of Chinese Cinema I
CCCF-SHU 127/	Paper Arts: History and Practice
INTM-SHU 127	
CCCF-SHU 129/	Masters of Asian Cinema
HUMN-SHU 229	
CCCF-SHU 130	Screening Childhood
CCCF-SHU 131	History of Chinese Cinema II
GCHN-SHU 207	20th Century Chinese Writers in Global Context
GCHN-SHU 231	Social and Cultural Debates
GCHN-SHU 251	World Wide Chinese Diaspora
GCHN-SHU 263	Voices from the Margin: Modern Chinese and Sinophone Writers/ Modern Chinese Writers
GCHN-SHU 264	Chinese Migrant and Diasporic Networks
HUMN-SHU 266/366	Shanghai Stories
HUMN-SHU 267	Representing Ethnicity in Mainland China and Beyond A Comparative Study
INTM-SHU 193	Chinese Cyberspace
INTM-SHU 225/	Media and Participation
SOCS-SHU 225	
MCC-SHU 9451	Global Media Seminar: China
RELS-SHU 9270	Religion and Society in China: Gods, Ghosts, Buddhas, and Ancestors
SCA-SHU 9634	Global Connections: Shanghai

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

## Core Math classes:

MATH-SHU 9	Precalculus
MATH-SHU 110/121	Calculus
MATH-SHU 140	Linear Algebra
MATH-SHU 160	Networks and Dynamics
MATH-SHU 201	Honors Calculus
MATH-SHU 212	Multivariable Calculus and Differential Equations

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

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

- 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
- CCEX-SHU 117 The Legacy of Tradition I: The Growth of Science in the West
- PHYS-SHU 11/ Physics I
- CCSC-SHU 50

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

- CCST-SHU 130 Animals, Nature, and Environment
- CCST-SHU 129 Information Societies
- CCST-SHU 125 Interconnected: The History and Theory of Networks
- CCST-SHU 122 Life in the Universe
- PHYS-SHU 12/ Physics II
- CCSC-SHU 51
- CCST-SHU 127 Serendipity
- CCST-SHU 124 Social Issues in the New Biosciences
- CCST-SHU 123 State and Fate of the Earth
- CCST-SHU 121 The Atom and Energy
- CCST-SHU 128 The Rise of Modern Science

##### *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
- INTM-SHU 246 Topics in Experimental Interfaces & Physical Computing:  
Digital Farm
- INTM-SHU 120 Communications Lab
- INTM-SHU 231 Developing Web

#### 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
- INTM-SHU 246 Topics in Experimental Interfaces & Physical Computing:  
Digital Farm
- INTM-SHU 120 Communications Lab
- INTM-SHU 231 Developing Web
- PHIL-SHU 70 Logic (Note: Only counts for 2-credits of the Algorithmic Thinking category)
- MATH-SHU 252 Numerical Analysis (Note: Only counts for 2-credits of the Algorithmic Thinking category)

## VI. Writing

Writing instruction at NYU Shanghai will be delivered in the first-year writing course during spring term and the second-year course *Perspective on the Humanities* during fall term. The works studied in these survey courses will be the primary focus of the essays that students will be asked to write in the workshops.

## VII. Chinese 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 102	Elementary Chinese II
CHIN-SHU 111	Elementary Chinese for Advanced Beginners
CHIN-SHU 201	Intermediate Chinese I
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 411	Introduction to Business Chinese
CHIN-SHU 415	Introduction to Contemporary China I
CHIN-SHU 416	Introduction to Contemporary China II
CHIN-SHU 429	Advanced High Business Chinese

*English Language Courses:*

ENGL-SHU 100	English for Academic Purposes I
ENGL-SHU 101	English for Academic Purposes II

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.

Key: Actual Course Titles Category

## NYU Shanghai

### Core Curriculum Requirements 2016-2017\*\*

Category	Actual Course Titles	Requirements
Writing	First Year Writing Seminar	
Social Foundations	Global Perspectives on Society (GPS) Social Science Perspectives on China (one course)	
Cultural Foundations	Perspectives on the Humanities (POH) Chinese Arts (one course)	
Mathematics*	Calculus Or Honors Calculus or Multi-variable Calculus Or Precalculus Or Quantitative Reasoning	Minimum 8 credits in 2 out of 3 categories 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)
Science*	Experimental Discovery in the Natural World (EDD) Science, Technology, and Society (STS)	All students must demonstrate proficiency in English by passing or placing out of two semesters of English for Academic Purposes (EAP)
Algorithmic Thinking*	Algorithmic Thinking (AT)	All students must demonstrate proficiency in Chinese by passing or placing out of Intermediate Chinese II.
Language		All students must demonstrate proficiency in Chinese by passing or placing out of Intermediate Chinese II.

\* The Mathematics, Science, and Algorithmic Thinking requirements may be wholly or partially fulfilled with AP, IB or A Level exam scores or NYU Shanghai placement status.

\*\*Core Curriculum classes may be used to meet major requirements. No single course may be used to meet more than two degree requirements of any type.

# {Part VI}

## Overview of Majors

# HUMANITIES

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HUMANITIES

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GLOBAL CHINA STUDIES

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INTERACTIVE MEDIA ARTS

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The Humanities major combines a rigorous general education in humanistic studies 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. Students will study both traditions and trends of humanistic inquiry produced at the crossroads of Asian, African, European, American, and Oceanian cultures. Learning to analyze a wide range of cultural sources, students will graduate with the capacity to critically engage with our globalizing world and contribute to contemporary scholarship.

In the two core courses, Critical Concepts and Digital Approaches, students acquire a set of methods for humanistic inquiry and explore new modes of knowledge production in the age of digital and information technology. During their first three years, students 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 growth.

## REQUIREMENTS FOR THE MAJOR

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**Note:** Humanities major students may fulfill the Math Core Curriculum Requirement in one of the following ways:

- Placing out of Precalculus through high school records or the placement exam.
- Passing Quantitative Reasoning, Precalculus or Calculus

### **Major Requirements: 44 Credits**

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.

#### **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*

CCST-SHU 131	Introduction to the Use of Scientific Data in Historical Research
HIST-SHU 232	Moments of Europe
HUMN-SHU 240	Gender, Sexuality, and Culture
PHIL-SHU 90	Philosophy of Science
PHIL-SHU 150	Central Problems in Philosophy

##### **• Digital Approaches - 4 credits**

###### *Sample Courses*

INTM-SHU 184	Communities and Net Literature
INTM-SHU 193	Chinese Cyberculture
INTM-SHU 225	Media and Participation
INTM-SHU 250	Special Topics in Digital Humanities: Street Food and Urban farming
PHIL-SHU 130	Philosophy of Technology: Thinking Machines

#### **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 121	History of Chinese Cinemas I
CCCF-SHU 131	History of Chinese Cinemas II
GCHN-SHU 110	The Concept of China
HIST-SHU 120	The Mongol Conquest in World History
HIST-SHU 126	World History: Part I
HIST-SHU 153	History of Modern China since 1840
PHIL-SHU 70	Logic
PHIL-SHU 150	Central Problems in Philosophy
SOCS-SHU 129	Taboo and Pollution
WRIT-SHU 159	Introduction to Creative Writing

#### **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*

CCCF-SHU 130	Screening Childhood
CCSF-SHU 130	China Encounters the World
(HIST-SHU 312)	
GCHN-SHU 224	Chinese Maritime History
GCHN-SHU 232	From Qing to the Republic: Social Debates in China
GCHN-SHU 263	Voices from the Margin: Modern Chinese and Sinophone Writers
GCHN-SHU 264	Chinese Migrant and Diasporic Networks

HIST-SHU 208	War and Peace: Europe Since 1900
HIST-SHU 225	The Global Space Age
HIST-SHU 240	The Soviet Empire, 1917-1991
HIST-SHU 302	History of Water
HIST-SHU 325	The New Cold War History
HIST-SHU 329	Futures of the Twentieth Century
HUMN-SHU 210	Modern South Asia
HUMN-SHU 211	The Making of the Muslim Middle East
HUMN-SHU 212	Africa since 1940
HUMN-SHU 213	The Age of Euro-American Empires
HUMN-SHU 366	Shanghai Stories
LIT-SHU 224	Hispanic Cities in Translation
LIT-SHU 225	Global Shakespeare
LIT-SHU 245	Literature and Science in the Renaissance
PHIL-SHU 252	Philosophy of Law
PHIL-SHU 90	Philosophy of Science
PHIL-SHU 130	Philosophy of Technology: Thinking Machines
PHIL-SHU 252	Philosophy of Law
RELS-SHU 9270	Religion and Society in China: Gods, Ghosts, Buddhas and Ancestors
SOCS-SHU 272	The US Constitution: Is It Relevant to China?
WRIT-SHU 209	Forms of Personal Narrative

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

- This semester-long course provides senior-year Humanities students with a platform to showcase their intellectual growth. It requires students to write a thesis under the supervision of the course instructor, in consultation with faculty experts. Faculty members from other NYU sites may also serve in this role.

# 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 their freshmen year; see Sample Schedule 2 for a sample plan which begins in sophomore year. Students may propose alternative course sequences to their advisors as well.*

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	Core Class	Core Class	English, Chinese, Core or GE
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#### Spring Semester

<i>Writing Seminar</i>	<b>Digital Approaches</b>	Core Class or GE	English, Chinese, Core or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b>Humanities Survey</b>	<b>Critical Concepts</b>	Core class, GE, or Chinese
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#### Spring Semester

Core class	Humanities Topic	<b>Humanities Survey</b>	Core class, GE, or Chinese
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### Year 3

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#### Fall Semester

General Elective	Humanities Topic	Humanities Topic	Core Class or GE
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#### Spring Semester

General Elective	Humanities Topic	Humanities Topic	General Elective
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### Year 4

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#### Fall Semester

General Elective	Humanities Topic	General Elective	General Elective
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#### Spring Semester

General Elective	<b>Humanities Capstone</b>	General Elective	General Elective
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# HUMANITIES

## SAMPLE SCHEDULE 2

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	Core Class	Core Class	English, Chinese, Core or GE
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#### Spring Semester

<i>Writing Seminar</i>	Core Class	Core Class or GE	English, Chinese, Core or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b>Humanities Survey</b>	<b>Critical Concepts</b>	Core class, GE, or Chinese
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#### Spring Semester

Core class	<b>Digital Approaches</b>	<b>Humanities Survey</b>	Core class, GE, or Chinese
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### Year 3

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#### Fall Semester

General Elective	Humanities Topic	Humanities Topic	Core Class or GE
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#### Spring Semester

General Elective	Humanities Topic	Humanities Topic	General Elective
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### Year 4

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#### Fall Semester

General Elective	Humanities Topic	Humanities Topic	General Elective
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#### Spring Semester

General Elective	<b>Humanities Capstone</b>	General Elective	General Elective
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# GLOBAL CHINA STUDIES

China is once again a major force in the world, while increasingly the world is drawn to China. Beyond the scope of conventional Area Studies, the innovative interdisciplinary major in Global China Studies allows students to build on the knowledge and critical skills gained from the core curriculum to deepen their understanding of the interaction between global trends and China's own evolution, whether at the level of state, society or individuals in the context of economic, religious, cultural, and political transformation.

Global China Studies majors will further their formal language study, either by an additional year of modern Chinese or a year of classical Chinese, or, in consultation with the adviser, by a year's study of another dialect or language of China; Student will develop in depth understanding of historical, socio-economics and cultural evolution of China; finally, majors are encouraged to study abroad beyond the minimum one semester in order to expand their global experience. Majoring in Global China Studies at NYU Shanghai positions students to pursue professional careers (in business, consulting, government, international agencies, NGOs) as well as graduate education in a broad range of areas at the cutting edge of 21st-century experience.

## REQUIREMENTS FOR THE MAJOR

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**Note:** Global China Studies major students may fulfill the Math Core Curriculum Requirement in one of the following ways:

- Placing out of Precalculus through high school records or the placement exam.
- Passing Quantitative Reasoning, Precalculus or Calculus

### **Major Requirements: 36 Credits**

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.

#### **Required Courses - 24 credits**

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

##### **• Chinese Geographies - 4 credits**

*Sample Courses \**

GCHN-SHU 164	The Stuff of Legends: The Many Meanings of the Early Silk Road(s)
GCHN-SHU 270	Researching Chinese Politics & Society

##### **• Digital China Studies - 4 credits**

*Sample Courses \**

INTM-SHU 184	Communities and Net Literature (formerly "Exploring Net Literature")
INTM-SHU 193	Chinese Cyberculture
INTM-SHU 225	Media and Participation
INTM-SHU 250	Special Topics in Digital Humanities: Street Food and Urban Farming
PHIL-SHU 130	Philosophy of Technology: Thinking Machine
SCA-SHU 9634	Global Connections: Shanghai

##### **• Worldwide Chinese Diaspora - 4 credits**

*Sample Courses \**

GCHN-SHU 264	Chinese Migrant and Diasporic Networks (formerly "Worldwide Chinese Diaspora")
HUMN-SHU 267	Representing Ethnicity in Mainland China and Beyond: A Comparative Study
HUMN-SHU 225	Topics in Asia-Pacific History: Asia-Pacific History in the 20th Century
HUMN-SHU 230	Topics in the Humanities: Introduction to Asian American Studies
GCHN-SHU 263	Voices from the Margin

##### **• Language (Non-Native Chinese speakers) - 8 credits**

Advanced Chinese I and II OR 8 credits of Chinese language classes at a level higher than Intermediate II.

##### **• Additional Electives (Native Chinese speakers) - 8 credits**

8 credits of additional electives from the list below.

### **Global China Studies Electives - 12 Credits**

*Sample Courses \**

*This is not an exhaustive list. More courses will be added as time goes on. If there is a course not listed that you would like to check on, please contact your Academic Advisor.*

CCCF-SHU 121	History of Chinese Cinemas I
CCCF-SHU 128	Contemporary Art and New Media
CCSF-SHU 130	China Encounters the World
CCCF-SHU 131	History of Chinese Cinemas II
CCCF-SHU 133	Journalism and Society in China

CCCF-SHU 130	Screening Childhood
CCSF-SHU 122	Traditional Chinese Wisdom and Its Transformation in Modern Times
CCSF-SHU 123	Contemporary Chinese Political Thought (formerly China's Political Thought in the Post-Maoist Era)
CCSF-SHU 124	Growing Shanghai, Shrinking Detroit
(*) GCHN-SHU 164	The Stuff of Legends: The Many Meanings of the Early Silk Road(s)
ECON-SHU 238	History of Modern Economics Growth: Exploring China From a Comparative Perspective (Chinese Economics History)
GCHN-SHU 165	Seek Knowledge, even onto China: The Islamic World and China
GCHN-SHU 207	20th Century Chinese Writers in Global Context
GCHN-SHU 224	Chinese Maritime History
GCHN-SHU 232	Social Debates in China: From Qing to the Republic (formerly Social and Cultural Debates in 20th-Century China)
GCHN-SHU 240	Modern Chinese Governance
GCHN-SHU 342/ BPEP-SHU 9042	The Political Economy of East Asia
GCHN-SHU 252	20th Century East-Asia - US relations
(*) GCHN-SHU 263	Voices from the Margin
(*) GCHN-SHU 264	Chinese Migrant and Diasporic Networks (formerly "Worldwide Chinese Diaspora")
(*) GCHN-SHU 270	Researching Chinese Politics & Society
HIST-SHU 120	The Mongol Conquest in World History
HIST-SHU 153	History of Modern China since 1840
(*) HUMN-SHU 225	Topics in Asia-Pacific History: Asia-Pacific History in the 20th Century
HUMN-SHU 229	Masters of Asian Cinema
(*)HUMN-SHU 230	Topics in the Humanities: Introduction to Asian American Studies
(*) HUMN-SHU 267	Representing Ethnicity in Mainland China and Beyond
HUMN-SHU 366	Shanghai Stories
(*) INTM-SHU 184	Communities and Net Literature (formerly "Exploring Net Literature")
(*) INTM-SHU 184	Exploring Net Literature
(*) INTM-SHU 193	Chinese Cyberculture
(*) INTM-SHU 225	Media and Participation
(*) INTM-SHU 250	Special Topics in Digital Humanities: Street Food and Urban farming
PHIL-SHU 130	Philosophy of Technology: Thinking Machine
RELS-SHU 9270	Religion and Society in China: Ghosts, Gods, Buddhas and Ancestors
SOCS-SHU 450	Chinese Environmental Governance
(*) SCA-SHU 9634	Global Connections: Shanghai

(\*) Note that a course taken as 'required' may not also count as an 'elective'

# GLOBAL CHINA STUDIES

## SAMPLE SCHEDULE 1

*This is just one example of how a student could organize their courses if pursuing a GCS major. It assumes a student begins taking GCS major courses in their freshmen year, see Sample Schedule 2 for a sample plan which begins in sophomore year. Students may propose alternative course sequences to their advisors as well.*

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society I</i>	Core Class	Core Class	English, Chinese, Core or GE
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#### Spring Semester

<i>Writing Seminar</i>	<b>GCS Required Course</b>	Core Class	English, Chinese, Core or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b>GCS Required Course</b>	Core class or GE	Core class or Chinese
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#### Spring Semester

Core class	<b>GCS Required Course</b>	<b>GCS Required Course</b>	Core class or Chinese
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### Year 3

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#### Fall Semester

General Elective	<b>GCS Required Course</b>	<b>GCS Required Course</b>	General Elective
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#### Spring Semester

General Elective	<b>GCS Elective</b>	General Elective	General Elective
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### Year 4

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#### Fall Semester

General Elective	<b>GCS Elective</b>	General Elective	General Elective
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#### Spring Semester

General Elective	<b>GCS Elective</b>	General Elective	General Elective
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# GLOBAL CHINA STUDIES

## SAMPLE SCHEDULE 2

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society I</i>	Core Class	Core Class	English, Chinese, Core or GE
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#### Spring Semester

<i>Writing Seminar</i>	Core Class	Core Class or GE	English, Chinese, Core or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b>GCS Required Course</b>	Core class or GE	Core class or Chinese
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#### Spring Semester

Core class	<b>GCS Required Course</b>	<b>GCS Required Course</b>	Core class or Chinese
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### Year 3

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#### Fall Semester

General Elective	<b>GCS Required Course</b>	<b>GCS Required Course</b>	General Elective
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#### Spring Semester

General Elective	<b>GCS Elective</b>	General Elective	General Elective
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### Year 4

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#### Fall Semester

General Elective	<b>GCS Elective</b>	<b>GCS Required Course</b>	General Elective
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#### Spring Semester

General Elective	<b>GCS Elective</b>	General Elective	General Elective
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Interactive Media Arts (IMA) is focused on exploring the expressive possibilities brought about by emerging forms of technology, media, and communication. In concert with the liberal arts core, student interests drive an ever-evolving project-based curriculum that is designed to facilitate the acquisition of both the conceptual insights and practical skills needed to build the innovative human-centered design projects imagined by our students. IMA students are challenged to create interactive systems that connect people, facilitate participation, convey information, communicate stories, enhance experiences, and otherwise augment, improve, and bring both meaning and delight to people's lives. This may involve the development of software, the manipulation of digital media, the fabrication of material objects, the production of electronic devices, the construction of virtual and physical spaces, or the investigation of as yet unrealized forms.

Experimentation and risk taking are encouraged as we seek to harness the synergistic potentials of both scientific and artistic methods to first understand and then redefine how humans interact with their tools, environments, and one another. Graduates will be prepared to more fully participate in a world in which change is elemental, and the fields of business, the humanities, and the sciences increasingly require essential fluency in interactive media.

## REQUIREMENTS FOR THE MAJOR

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**Note:** IMA major students may fulfill the Math Core Curriculum Requirement in one of the following ways:

- Placing out of Precalculus through high school records or the placement exam.
- Passing Quantitative Reasoning, Precalculus or Calculus

### **Major Requirements: 36 Credits**

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.

#### **Foundations - 8 Credits**

- **INTM-SHU 101 Interaction Lab - 4 credits**
- **INTM-SHU 120 Communications Lab - 4 credits**

#### **Distribution Electives - 24 credits**

##### **• Seminar**

Students are required to complete at least one seminar course.

###### *Sample Courses*

INTM-SHU 184	Communities and Net Literature
INTM-SHU 193	Intro to Digital Media: Chinese Cyberculture
INTM-SHU 225	Media & Participation
INTM-SHU 250	Special Topics in Digital Humanities: Street Food & Urban Farming
PHIL-SHU 130	Philosophy of Technology: Thinking Machines

*Remaining elective requirements must satisfy three of the following categories. Each elective course can be 2, 3, or 4 credits, but only a 3- or 4-credit class can satisfy one required category by itself. A 2-credit course cannot satisfy one distribution requirement category by itself and must be combined with another 2-credit course under the same category to satisfy the requirement.*

##### **• Art & Design**

###### *Sample Courses*

BUSF-SHU 211	Design Thinking
INTM-SHU 127	Paper Art: History & Practice
INTM-SHU 180	Design Expo
INTM-SHU 234	Rapid Prototyping
INTM-SHU 235	Digital Fabrication
INTM-SHU 236	Interactive Installation

##### **• New Media & Entertainment**

###### *Sample Courses*

INTM-SHU 190	Collective Methods
INTM-SHU 209	This is the Remix
INTM-SHU 210	Animation: Traditional Techniques and Contemporary Practices
INTM-SHU 280	Video Games

##### **• Computation & Data**

###### *Sample Courses*

INTM-SHU 10J	Neighborhood, Map, Phone
INTM-SHU 230-003	The Code of Music
INTM-SHU 231	Developing Web
INTM-SHU 270	Generating and Expressing Data

##### **• Experimental Interfaces & Physical Computing**

###### *Sample Courses*

INTM-SHU 165	Talking Fabrics
INTM-SHU 222	Introduction to Robotics

INTM-SHU 240	Solar Solutions: Considering The Sun in Our Digital Future
INTM-SHU 245	Animatronics
INTM-SHU 246-003	Kinetic Interfaces

- **Business of Interactive Media**

*Sample Courses*

INTM-SHU 252	The Minimum Viable Product
INTM-SHU 255	Topics in Business of Interactive Media: The Consumer Class

**Senior Thesis Project - 4 credits**

# 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 their freshmen year, see Sample Schedule 2 for a sample plan which begins in sophomore year. Students may propose alternative course sequences to their advisors as well.*

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	Core Class	Core Class	English, Chinese, Core or GE
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#### Spring Semester

<i>Writing Seminar</i>	<b><i>Interaction Lab or Communications Lab</i></b>	Core Class	English, Chinese, Core or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b><i>Interaction Lab or Communications Lab</i></b>	Interactive Media Elective	Core class, GE, or Chinese
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#### Spring Semester

Core class	Interactive Media Elective	Interactive Media Elective	Core class, GE, or Chinese
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### Year 3

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#### Fall Semester

General Elective	Interactive Media Elective	General Elective	Core class or GE
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#### Spring Semester

General Elective	Interactive Media Elective	General Elective	General Elective
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### Year 4

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#### Fall Semester

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

General Elective	<b>Senior Thesis Project</b>	General Elective	General Elective
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# INTERACTIVE MEDIA ARTS

## SAMPLE SCHEDULE 2

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	Core Class	Core Class	English, Chinese, Core or GE
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#### Spring Semester

<i>Writing Seminar</i>	Core Class or GE	Core Class	English, Chinese, Core or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b><i>Interaction Lab or Communications Lab</i></b>	Interactive Media Elective	Core class, GE, or Chinese
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#### Spring Semester

Core class	<b><i>Interaction Lab or Communications Lab</i></b>	Interactive Media Elective	Core class, GE, or Chinese
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### Year 3

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#### Fall Semester

Core class or GE	Interactive Media Elective	Interactive Media Elective	General Elective
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#### Spring Semester

General Elective	<b>Interactive Media Elective</b>	General Elective	General Elective
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### Year 4

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#### Fall Semester

General Elective	<b>Interactive Media Elective</b>	General Elective	General Elective
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#### Spring Semester

General Elective	<b>Senior Thesis Project</b>	General Elective	General Elective
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# SCIENCE AND MATHEMATICS

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BIOLOGY

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CHEMISTRY

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NEURAL SCIENCE

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PHYSICS

---

MATHEMATICS

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HONORS MATHEMATICS

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COMPUTER SCIENCE

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DATA SCIENCE

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COMPUTER ENGINEERING SYSTEMS

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ELECTRICAL ENGINEERING SYSTEMS

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# 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 applied to study fundamental processes in organisms. As a result, there has been a transformation in the understanding of life, from the genetic networks that guide how embryos develop to uncovering—at unprecedented resolution—natural genetic variation and how life adapts to diverse environments. These and other discoveries in biology have shaped society by improving human health, enhancing rational management of our environment, developing forensic science, and augmenting the production of renewable energy with the concomitant sequestering of pollutants. In addition, the rapid growth of the life sciences has fueled new ethical and legal issues that impinge on biological discoveries and their applications.

Building on the foundational integrated science courses, 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. 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 advanced courses emphasize the fundamental concepts and principles mastered in the Foundations of Science sequence, continuing the emphasis on using interdisciplinary approaches to understand the natural world.

The Biology major is taught by faculty who carry out research in state-of-the-art laboratories in various areas in the life sciences. 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 the NYU Global Network.

## REQUIREMENTS FOR THE MAJOR

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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.

### Prerequisite 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 or CCSC-SHU 50 Physics I
PHYS-SHU 93	Foundations of Physics II Honors or CCSC-SHU 51 Physics II

#### Note:

1. Biology majors are encouraged to complete the above classes in their first 3 semesters.
2. Biology majors are not required to take Foundations of Physics III Honors and may substitute General Physics I & II for the FoS 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-med, 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. FoS Physics I-III Honors covers a similar set of topics in considerably greater depth, plus special relativity and an introduction to quantum mechanics, over three semesters. Please note that FoS Physics I & II Honors alone do not include some important topics, such as thermal and statistical physics, which are included in FoS Physics III Honors. Therefore, students electing to take the Honors Physics track are highly recommended to take FoS Physics III Honors as well. Students with strong high-school backgrounds in physics or math are also highly recommended to take FoS Physics I-III Honors.

### Required Courses

BIOL-SHU 42	Biostatistics
BIOL-SHU 250	Organismal Systems
CHEM-SHU 225	Organic Chemistry I
CHEM-SHU 225L	Organic Chemistry I Lab

### 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 Global Network with prior approval.

Students are strongly encouraged (but not required) to take CHEM-SHU 226 Organic Chemistry II as a general elective.

#### Sample Courses

BIOL-SHU 30	Genetics
BIOL-SHU 31	Genetics Laboratory
BIOL-SHU 44	Microbiology and Microbial Genomics
BIOL-SHU 50	Immunology
BIOL-SHU 58	Evolution
BIOL-SHU 261	Genomics and Bioinformatics
BIOL-SHU 263	Developmental Biology
BIOL-SHU 1128 S	Systems Biology
CCEX-SHU 116	Where the City Meets the Sea

CHEM-SHU 881  
MATH-SHU 160  
NEUR-SHU 201  
BIOL-SHU 997

Biochemistry I  
Networks and Dynamics  
Introduction to Neuroscience  
Independent Research / Research Internship

**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

## 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 their freshmen year, see Sample Schedule 2 for a sample plan which begins in sophomore year. Students may propose alternative course sequences to their advisors as well.

### Year 1

#### Fall Semester

<i>Global Perspectives on Society I</i>	<i>Core Class (Calculus)</i>	<b>8 credits: Foundations of Physics I Honors, Foundations of Chemistry I, and FoS Physics Laboratory</b>	2 credits: English or Chinese
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#### Spring Semester

<i>Writing Seminar</i>	<i>Core class</i>	<b>10 credits: Foundations of Physics II Honors, Foundations of Chemistry II, Foundations of Biology I and FoS Chemistry Laboratory</b>	2 credits: English or Chinese
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### Year 2

#### Fall Semester

<i>Perspectives on the Humanities</i>	<b>5 credits: Organic Chemistry I + Organic Chemistry I Lab</b>	<b>5 credits: Foundations of Biology II and FoS Biology Laboratory</b>	Core, Chinese or General Elective
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#### Spring Semester

Core, Chinese or General Elective	General Elective (could be Organic Chemistry II for pre-med students)	<b>Organismal Biology</b>	<b>Biostatistics</b>
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### Year 3

#### Fall Semester

General Elective	Biology Elective	Biology Elective	Chinese or General Elective
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#### Spring Semester

General Elective	Biology Elective	General Elective	Chinese or General Elective
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### Year 4

#### Fall Semester

General Elective	Biology Elective	General Elective	General Elective
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#### Spring Semester

General Elective	Biology Elective	General Elective	General Elective
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# BIOLOGY

## SAMPLE SCHEDULE 2

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	Core Class ( <i>Calculus</i> )	Core class	English, Chinese, Core or GE
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#### Spring Semester

<i>Writing Seminar</i>	Core class	General Elective	English, Chinese, Core or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	Core class, GE, or Chinese	<b>8 credits:</b> <i>Foundations of Physics I Honors, Foundations of Chemistry I, and FoS Physics Laboratory</i>	No Class
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#### Spring Semester

Chinese or General Elective	General Elective	<b>10 credits:</b> <i>Foundations of Physics II Honors, Foundations of Chemistry II, Foundations of Biology I and FoS Chemistry Laboratory</i>	No Class
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### Year 3

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#### Fall Semester

General Elective	<b>5 credits:</b> <i>Chemistry I + Organic Chemistry I Lab</i>	<b>5 credits:</b> <i>Foundations of Biology II and FoS Biology Laboratory</i>	General Elective
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#### Spring Semester

<b><i>Biostatistics</i></b>	General Elective (could be <i>Organic Chemistry II</i> for pre-med students)	<b><i>Organismal System</i></b>	Biology Elective
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### Year 4

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#### Fall Semester

General Elective	Biology Elective	Biology Elective	General Elective
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#### Spring Semester

General Elective	Biology Elective	Biology Elective	General Elective
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# CHEMISTRY

The focus of the Chemistry program 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. In fact, chemistry interfaces with the life sciences and with physics and mathematics.

The range of applications of modern chemistry is broad, spanning many aspects of human activities such as the improvement of agriculture, the discovery of new drugs, and the creation of new materials by learning how molecules are assembled and how they recognize one another. Chemistry drives the exciting field of nanotechnology that generates new materials for devising ever smaller electronic devices with enhanced computing or information storage characteristics; that invents novel materials for innovative applications in industry and everyday life; and that constructs novel photosensitive materials for solar energy conversion to electricity, to cite just a few examples.

Majoring in Chemistry provides strong preparation for graduate study in chemistry and biochemistry; professional education in medicine, pharmacy, dentistry, or patent law; and careers in industrial or pharmaceutical chemistry and biotechnology.

## REQUIREMENTS FOR THE MAJOR

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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.

### Prerequisite 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 or CCSC-SHU 50      Physics I
PHYS-SHU 93	Foundations of Physics II Honors or CCSC-SHU 51      Physics II

#### Note:

1. Chemistry majors are encouraged to complete the above classes in their first 3 semesters.
2. Chemistry majors are not required to take Foundations of Physics III Honors and may substitute General Physics I & II for the FoS 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-med students, 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. FoS Physics I-III Honors covers a similar set of topics in considerably greater depth, plus special relativity and an introduction to quantum mechanics, over three semesters. Please note that FoS Physics I & II Honors alone do not include some important topics, such as thermal and statistical physics, which are included in FoS Physics III Honors. Therefore, students electing to take the Honors Physics track are highly recommended to take FoS Physics III Honors as well. Students with strong high-school backgrounds in physics or math are also highly recommended to take FoS Physics I-III 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
MATH-SHU 235	Probability and Statistics
MATH-SHU 265	Linear Algebra and Differential Equations

### Chemistry Electives - Choose Three

CHEM-SHU 285	Experimental Biochemistry
CHEM-SHU 310	Biophysical Chemistry
CHEM-SHU 711	Inorganic Chemistry
CHEM-SHU 881	Biochemistry I
CHEM-SHU 882	Biochemistry II
CHEM-SHU 997	Independent Study

**Note:** Please note that Independent Study must have a combined total of 4 credits. This can be done in 1 semester with a 4-credit load. Students can also fulfill this requirement over 2 semesters and take 2-credit loads each semester. Students should consult with the DUS and Faculty Research Advisor for approval.

# 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 their freshman year, see Sample Schedule 2 for a sample plan which begins in sophomore year. Students may propose alternative course sequences to their advisors as well.

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	<i>Core Class (Calculus)</i>	<b>8 credits: Foundations of Physics I Honors, Foundations of Chemistry I, and FoS Physics Laboratory</b>	2 credits: English or Chinese
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#### Spring Semester

<i>Writing Seminar</i>	<i>Multivariable Calculus</i>	<b>10 credits: Foundations of Physics II Honors, Foundations of Chemistry II, Foundations of Biology I and FoS Chemistry Laboratory</b>	2 credits: English or Chinese
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b>5 credits: Organic Chemistry I + Organic Chemistry I Lab</b>	<b>5 credits: Foundations of Biology II and FoS Biology Laboratory</b>	<i>Linear Algebra and Differential Equations</i>
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#### Spring Semester

<i>Core, Chinese or General Elective</i>	<b>5 credits: Organic Chemistry II + Organic Chemistry II Lab</b>	<i>Probability and Statistics</i>	Chinese or General Elective
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### Year 3

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#### Fall Semester

<i>General Elective</i>	<b>Physical Chemistry: Quantum Mechanics and Spectroscopy</b>	<i>Chemistry Elective</i>	Chinese or General Elective
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#### Spring Semester

<b>Physical Chemistry Laboratory</b>	<i>Chemistry Elective e.g. Inorganic Chemistry (NY only in Spring)</i>	<b>Physical Chemistry: Thermodynamics and Kinetics</b>	Chinese or General Elective
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### Year 4

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#### Fall Semester

<i>General Elective</i>	<i>Chemistry Elective</i>	<i>General Elective</i>	<i>General Elective</i>
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#### Spring Semester

<i>General Elective</i>	<i>Chemistry Elective</i>	<i>General Elective</i>	<i>General Elective</i>
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# CHEMISTRY

## SAMPLE SCHEDULE 2

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	<i>Core Class (Calculus)</i>	<i>Core class</i>	<i>English, Chinese, General Elective</i>
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#### Spring Semester

<i>Writing Seminar</i>	<i>Core class</i>	<i>General Elective</i>	<i>English, Chinese, or General Elective</i>
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<i>Linear Algebra and Differential Equations</i>	<i>8 credits: Foundations of Physics I Honors, Foundations of Chemistry I, and FoS Physics Laboratory</i>	<i>No Class</i>
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#### Spring Semester

<i>Probability and Statistics</i>	<i>Multivariate Calculus</i>	<i>10 credits: Foundations of Physics II Honors, Foundations of Chemistry II, Foundations of Biology I and FoS Chemistry Laboratory</i>	<i>No Class</i>
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### Year 3

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#### Fall Semester

<i>5 credits: Organic Chemistry I + Organic Chemistry I Lab</i>	<i>Physical Chemistry: Quantum Mechanics and Spectroscopy</i>	<i>5 credits: Foundations of Biology II and FoS Biology Laboratory</i>	<i>Chinese or General Elective</i>
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#### Spring Semester

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

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#### Fall Semester

<i>General Elective</i>	<i>Chemistry Elective</i>	<i>Chemistry Elective</i>	<i>General Elective</i>
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#### Spring Semester

<i>General Elective</i>	<i>Chemistry Elective</i>	<i>General Elective</i>	<i>General Elective</i>
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# NEURAL SCIENCE

Neural science 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. Experimental questions include issues related to biophysical and neurochemical mechanisms within single nerve cells, functional neural circuits consisting of small numbers of neurons, the behavior of large systems of neurons, and the relationship between the activity of elements of the nervous system and the behavior of organisms. The Neural Science program at NYU Shanghai has strong interactions with the Center for Neural Science at NYU in New York as well as with other laboratories across the NYU Global Network.

The undergraduate Neural Science curriculum blends courses from many of the basic sciences as a foundation for higher level work in Neural Science.

## 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.

### Prerequisite 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 or CCSC-SHU 50 Physics I
PHYS-SHU 93	Foundations of Physics II Honors or CCSC-SHU 51 Physics II

#### Note:

1. Neural Science majors are encouraged to complete the above classes in their first 3 semesters.
2. Neural Science majors are not required to take Foundations of Physics III Honors and may substitute General Physics I & II for the FoS 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-medics, 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. FoS Physics I-III Honors covers a similar set of topics in considerably greater depth, plus special relativity and an introduction to quantum mechanics, over three semesters. Please note that FoS Physics I & II Honors alone do not include some important topics, such as thermal and statistical physics, which are included in FoS Physics III Honors. Therefore, students electing to take the Honors Physics track are highly recommended to take FoS Physics III Honors as well. Students with strong high-school backgrounds in physics or maths are also highly recommended to take FoS Physics Honors I-III.

### Required Courses - All Five

BIOL-SHU 42	Biostatistics (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

*\*The following courses will not be offered at Shanghai but student 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
PSYC-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 Shanghai but student 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 Electives - Choose Three**

MATH-SHU 160	Networks and Dynamics (Spring)
NEUR-SHU 10J	Free Will and the Brain (Spring)
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 Shanghai but student may take one of them at New York to fulfill the requirement.*

NEURL-UA 305	Development and Dysfunction of the Nervous System
NEURL-UA 302	Special Topics in Neural Science

### **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.

**NEUR-SHU 997 Independent study in Neural Science** (2-4 credits, can be repeated once): Open to advanced neural science majors with permission of DUS.

#### 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

#### 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

## SAMPLE SCHEDULE 1

*This is just one example of how a student could organize their courses if pursuing a Neural Science major. It assumes a student begins taking Neural Science major courses in their freshmen year, see Sample Schedule 2 for a sample plan which begins in sophomore year. Students may propose alternative course sequences to their advisors as well.*

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	<i>Core Class (Calculus)</i>	<b>8 credits: <i>Foundations of Physics I Honors, Foundations of Chemistry I, and FoS Physics Laboratory</i></b>	2 credits: English or Chinese
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#### Spring Semester

<i>Writing Seminar</i>	<i>Core Class</i>	<b>10 credits: <i>Foundations of Physics II Honors, Foundations of Chemistry II, Foundations of Biology I and FoS Chemistry Laboratory</i></b>	2 credits: English or Chinese
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<i>Introduction to Neural Science</i>	<b>5 credits: <i>Foundations of Biology II and FoS Biology Laboratory</i></b>	Core class, GE, or Chinese
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#### Spring Semester

<b>Approved upper-level course in either Psychology or Biology</b>	<i>Behavioral and Integrative Neuroscience</i>	<i>Biostatistics</i>	Core class, GE, or Chinese
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### Year 3

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#### Fall Semester

<i>Neural Science Major Elective</i>	<i>Cellular and Molecular Neuroscience</i>	General Elective	Language Class or General Elective
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#### Spring Semester

<i>Neural Science Major Elective</i>	General Elective	General Elective	General Elective
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### Year 4

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#### Fall Semester

General Elective	<i>Neural Science Major Elective</i>	General Elective (Independent Study)	General Elective
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#### Spring Semester

General Elective	General Elective	General Elective (Independent Study)	General Elective
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# NEURAL SCIENCE

## SAMPLE SCHEDULE 2

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	Core Class ( <i>Calculus</i> )	Core class	English, Chinese, Core, or GE
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#### Spring Semester

<i>Writing Seminar</i>	Core class	General Elective	English, Chinese, Core, or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	Chinese or General Elective	<b>8 credits: Foundations of Physics I Honors, Foundations of Chemistry I, and FoS Physics Laboratory</b>	No Class
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#### Spring Semester

Core class, GE, or Chinese	General Elective	<b>10 credits: Foundations of Physics II Honors, Foundations of Chemistry II, Foundations of Biology I and FoS Chemistry Laboratory</b>	No Class
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### Year 3

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#### Fall Semester

<b><i>Introduction to Neural Science</i></b>	General Elective	<b>5 credits: Foundations of Biology II and FoS Biology Laboratory</b>	General Elective
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#### Spring Semester

Neural Science Elective	<b><i>Behavioral and Integrative Neuroscience</i></b>	<b><i>Biostatistics</i></b>	General Elective
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### Year 4

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#### Fall Semester

<b><i>Cellular and Molecular Neuroscience</i></b>	<b><i>Approved upper-level course in either Psychology or Biology</i></b>	Neural Science Elective (NS, Bio, Math, or CS)	General Elective
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#### Spring Semester

Neural Science Elective (NS, Bio, Math, or CS)	General Elective	General Elective	General Elective
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# PHYSICS

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 games to the modeling of financial activities, as well as the more traditional activities of physicists. Those trained in physics are found in many occupations, such as various fields of engineering, computer technology, health, environmental and earth sciences, communications, 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.

## REQUIREMENTS FOR THE MAJOR

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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.

### Prerequisite 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 or (CCSC-SHU 50 Physics I with a B+ or better grade)
PHYS-SHU 93	Foundations of Physics II Honors
	Foundations of Physics IV Honors
PHYS-SHU 94	Physics II Laboratory
PHYS-SHU 95	Foundations of Physics III 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-medics, 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. FoS 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 FoS Physics I & II Honors alone do not include some important topics, such as thermal and statistical physics, which are included in FoS Physics III Honors. Therefore, students electing to take the Honors Physics track are highly recommended to take FoS Physics III Honors as well.
2. Students who have taken 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 FoS 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 math are strongly recommended to take FoS Physics I-IV Honors.
3. Physics majors are not required to take Foundations of Biology II.

### Required Courses

MATH-SHU 123	Multivariable Calculus
MATH-SHU 235	Probability and Statistics
MATH-SHU 265	Linear Algebra and Differential Equations or MATH-SHU 140 Linear Algebra
PHYS-SHU 106	Mathematical Physics
PHYS-SHU 250	Mechanics
PHYS-SHU 251	Electricity and Magnetism
PHYS-SHU 301	Quantum Mechanics
PHYS-SHU 302	Statistical Mechanics and Thermodynamics
PHYS-SHU 303	Advanced Physics Laboratory

### Physics Electives - Choose One

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

## 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 their freshmen year, see Sample Schedule 2 for a sample plan which begins in sophomore year. Students may propose alternative course sequences to their advisors as well.

### Year 1

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#### 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 Seminar*

**Multivariable Calculus**

**10 credits: Foundations of Physics II Honors, Foundations of Chemistry II, Foundations of Biology I and Physics II Laboratory**

2 credits: English or Chinese

### Year 2

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#### Fall Semester

*Perspectives on the Humanities*

**Linear Algebra and Differential Equations/ Linear Algebra**

**5 credits: Foundations of Physics III and FoS Biology Laboratory**

Core, Chinese or General Elective

#### Spring Semester

**FoS Chemistry Laboratory**

**Mechanical Physics**

**Probability and Statistics**

**3 credits: Foundations of Physics IV Honors**

### Year 3

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#### Fall Semester

**Mechanics**

**Electricity and Magnetism**

**Quantum Mechanics**

Chinese or General Elective

#### Spring Semester

**Statistical Mechanics and Thermodynamics**

Physics Elective

**Advanced Physics Lab**

Chinese or General Elective

### Year 4

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#### Fall Semester

General Elective

General Elective

General Elective

Chinese or General Elective

#### Spring Semester

General Elective

General Elective

General Elective

Chinese or General Elective

# PHYSICS

## SAMPLE SCHEDULE 2

### Year 1

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#### Fall Semester

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

<i>Writing Seminar</i>	Core Class	<b><i>Multivariable Calculus</i></b>	English, Chinese, or General Elective
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b>8 credits:</b> <i>Foundations of Physics I Honors, Foundations of Chemistry I, and FoS Physics Laboratory</i>	<i>Linear Algebra and Differential Equations/ Linear Algebra</i>	No Class
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#### Spring Semester

General Elective	<b>10 credits:</b> <i>Foundations of Physics II Honors, Foundations of Chemistry II, Foundations of Biology I and Physics II Laboratory</i>	<i>Probability and Statistics</i>	No Class
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### Year 3

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#### Fall Semester

<b>5 credits:</b> <i>Foundations of Physics III and FoS Biology Laboratory</i>	Chinese or General Elective	General Elective	General Elective
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#### Spring Semester

<i>Mechanical Physics</i>	<b>3 credits:</b> <i>Foundations of Physics IV Honors</i>	Chinese or General Elective	General Elective
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### Year 4

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#### Fall Semester

<i>Mechanics</i>	<i>Electricity and Magnetism</i>	<i>Quantum Mechanics</i>	<i>Advanced Physics Lab</i>
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#### Spring Semester

<i>Statistical Mechanics and Thermodynamics</i>	Physics Elective	<i>FoS Chemistry Laboratory</i>	General Elective
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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, investigate rare events in financial markets, model the physical universe, develop predictions for climate science, map and study the human genome, and analyze the structure of the human brain. Mathematics draws vitality from questions arising in the natural world, as well as applications to industry and technology, and yet it is grounded in rigor and abstraction.

The Mathematics major is designed to give comprehensive training in both mathematics and its applications to prepare you for a career or 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: (a) Mathematics and (b) Honors Mathematics. Students who are interested in pursuing graduate study in Mathematics or related disciplines are encouraged to consider the Honors Mathematics degree.

## REQUIREMENTS FOR THE MAJOR

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**Note:** To satisfy the Core Curriculum requirements of “Experimental Discovery in the Natural World” and “Science, Technology, and Society”, Math majors may choose from the following courses:

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

Student 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.

### **Major Requirements**

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 123	Multivariable Calculus
MATH-SHU 140	Linear Algebra
MATH-SHU 262	Ordinary Differential Equations
MATH-SHU 235	Probability and Statistics
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 328	Honors Analysis I
MATH-SHU 348	Honors Algebra I
MATH-SHU 349	Analysis (offered in Courant and is equivalent to Honors Calculus in Shanghai)

#### **• Additional Mathematics Electives**

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

CSCI-SHU 2314	Discrete Mathematics
MATH-SHU 160	Networks and Dynamics
MATH-SHU 230	Introduction to Fluid Dynamics
MATH-SHU 234	Mathematical Statistics
MATH-SHU 240	Combinatorics
MATH-SHU 252	Numerical Analysis
MATH-SHU 263	Partial Differential Equations
MATH-SHU 264	Dynamical Systems
MATH-SHU 329	Honors Analysis II
MATH-SHU 349	Honors Algebra II
MATH-SHU 375	Topology
MATH-SHU 377	Differential Geometry
MATH-SHU-G 2043	Scientific Computations
MATH-SHU-G 2210	Number Theory
MATH-SHU-G 2430	Real Variables
MATH-SHU-G 2550	Functional Analysis

# MATHEMATICS

## SAMPLE SCHEDULE 1

This is just one example of how a student could organize their courses if pursuing a Math major. It assumes a student begins taking Math major courses in their freshmen year; see Sample Schedule 2 for a sample plan which begins in sophomore year. Students may propose alternative course sequences to their advisors as well.

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society I</i>	Core Class ( <i>Calculus</i> )	Core class	English, Chinese, Core or GE
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#### Spring Semester

<i>Writing Seminar</i>	<b><i>Multivariate Calculus</i></b>	Core class	English, Chinese, Core or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b><i>Linear Algebra</i></b>	<b><i>Probability and Statistics</i></b>	Core class, GE, or Chinese
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#### Spring Semester

Core class	<b><i>Ordinary Differential Equations</i></b>	<b><i>Constrained Math Elective</i></b>	Core class, GE, or Chinese
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### Year 3

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#### Fall Semester

Core class or GE	<b><i>Complex Variables</i></b>	<b><i>Constrained Math Elective</i></b>	General Elective
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#### Spring Semester

General Elective	Mathematics Elective	Mathematics Elective	General Elective
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### Year 4

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#### Fall Semester

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

General Elective	Mathematics Elective	Mathematics Elective	General Elective
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# MATHEMATICS

## SAMPLE SCHEDULE 2

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	Core Class (Calculus)	Core class	English, Chinese, Core or GE
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#### Spring Semester

<i>Writing Seminar</i>	Core class	Core class or GE	English, Chinese, Core or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<i>Linear Algebra</i>	<i>Probability and Statistics</i>	Core class, GE, or Chinese
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#### Spring Semester

Core class	<i>Multivariate Calculus</i>	<i>Constrained Math Elective</i>	Core class, GE, or Chinese
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### Year 3

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#### Fall Semester

Core class or GE	<i>Ordinary Differential Equations</i>	<i>Constrained Math Elective</i>	Mathematics Elective
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#### Spring Semester

General Elective	<i>Complex Variables</i>	Mathematics Elective	Mathematics Elective
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### Year 4

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#### Fall Semester

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

General Elective	Mathematics Elective	General Elective	General Elective
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## REQUIREMENTS FOR THE MAJOR

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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 freshmen year grades.

To graduate with an Honors Mathematics degree students have to maintain a general GPA of 3.65 or higher and a GPA of 3.65 or higher in the major sequence. If they fail to do so they may graduate as mathematics majors but retain the Honors designation of the individual courses they took on their transcripts.

**Note:** To satisfy the Core Curriculum requirements of "Experimental Discovery in the Natural World" and "Science, Technology, and Society", Honors Mathematics majors may choose from the following courses:

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

Student must take 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.

### Major Requirements

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	Theory of Probability
MATH-SHU 282	Complex Variables
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

### Mathematics Electives - Choose Five

CSCI-SHU 2314	Discrete Mathematics
MATH-SHU 160	Networks and Dynamics
MATH-SHU 230	Introduction to Fluid Dynamics
MATH-SHU 234	Mathematical Statistics
MATH-SHU 240	Combinatorics
MATH-SHU 349	Honors Algebra II
MATH-SHU 250	Mathematics of Finance
MATH-SHU 252	Numerical Analysis
MATH-SHU 263	Partial Differential Equation
MATH-SHU 264	Dynamical Systems
MATH-SHU 375	Topology
MATH-SHU-G 2043	Scientific Computations
MATH-SHU-G 2210	Number Theory
MATH-SHU-G 2430	Real Variables
MATH-SHU-G 2550	Functional Analysis

**Senior Thesis (by approval) or 1 additional Mathematics elective course**

# HONORS MATHEMATICS SAMPLE SCHEDULE

*This is just one example of how a student could organize their courses if pursuing the HM major. It assumes a student begins taking HM major courses in their freshmen year. Students may propose alternative course sequences to their advisors as well.*

## Year 1

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### Fall Semester

<i>Global Perspectives on Society</i>	Core Class ( <i>Honors Calculus</i> )	<b><i>Honors Linear Algebra I</i></b>	English, Chinese, Core or GE
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### Spring Semester

<i>Writing Seminar</i>	<b><i>Honors Analysis I</i></b>	<b><i>Honors Linear Algebra II</i></b>	English, Chinese, Core or GE
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## Year 2

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### Fall Semester

<i>Perspectives on the Humanities</i>	<b><i>Honors Analysis II</i></b>	<b><i>Honors Ordinary Differential Equations</i></b>	Core class, GE, or Chinese
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### Spring Semester

Core class	<b><i>Complex Variables</i></b>	<b><i>Theory of Probability</i></b>	Core class, GE, or Chinese
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## Year 3

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### Fall Semester

Core class	<b><i>Honors Algebra I or Differential Geometry</i></b>	Mathematics Elective	Core class or GE
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### Spring Semester

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

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### Fall Semester

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

General Elective	Mathematics Elective	General Elective	General Elective
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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 smartphone application development. 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

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**Note:** Student must take MATH-SHU 121 Calculus (or MATH-SHU 201 Honors Calculus) to satisfy the Mathematics requirement in the core curriculum.

Not every course below 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.

### Prerequisite 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 or  
BIOL-SHU 42 Biostatistics

### Required Major Courses

CENG-SHU 202 Computer Architecture or CSCI-SHU 201 Computer Systems Organization  
CSCI-SHU 210 Data Structures  
CSCI-SHU 215 Operating Systems  
CSCI-SHU 220 Algorithms  
CSCI-SHU 2314 Discrete Mathematics

### Computer Science Electives - Choose Four

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.

CENG-SHU 201 Digital Logic  
CENG-SHU 303 Parallel and Distributed Computing  
CENG-SHU 304 Computer Security  
CSCI-SHU 201 Computer Systems Organization  
CSCI-SHU 222 Introduction to Game Programming  
CSCI-SHU 235 Information Visualization  
CSCI-SHU 271 Computer Vision  
CSCI-SHU 304 Network Security  
CSCI-SHU 308 Computer Networking  
CSCI-SHU 310 UNIX System Programming  
CSCI-SHU 323 Computer Graphics  
CSCI-SHU 340 Introduction to Databases  
CSCI-SHU 358 Theory of Computation  
CSCI-SHU 360 Machine Learning and Data Mining  
CSCI-SHU 372 Artificial Intelligence  
CSCI-SHU 378 Introduction to Cryptography  
CSCI-SHU 402 Advanced Algorithms  
CSCI-SHU 410 Software Engineering  
EENG-SHU 375 Robotic System  
INTM-SHU 231 Developing Web

### Senior Project

# 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 their freshmen year, see Sample Schedule 2 for a sample plan which begins in sophomore year. Students may propose alternative course sequences to their advisors as well.*

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	<i>Core Class (Calculus)</i>	<b><i>Core class (Intro to Programming/ Computer Science)</i></b>	English, Chinese, Core, or GE
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#### Spring Semester

<i>Writing Seminar</i>	<i>Core class</i>	<b><i>Introduction to Computer Science or Data Structures</i></b>	English, Chinese, Core, or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b><i>Data Structures or Computer Science Elective</i></b>	<b><i>Discrete Mathematics</i></b>	Core class, GE, or Chinese
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#### Spring Semester

<i>Core class</i>	<i>Computer Science Elective</i>	<b><i>Computer Architecture</i></b>	Core class, GE, or Chinese
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### Year 3

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#### Fall Semester

<i>Core class or GE</i>	<i>Computer Science Elective</i>	<b><i>Algorithms</i></b>	General Elective
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#### Spring Semester

<i>Core class or GE</i>	<i>Computer Science Elective</i>	<b><i>Probability and Statistics</i></b> or alternate courses, see pg. 128	General Elective
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### Year 4

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#### Fall Semester

General Elective	<i>Computer Science Elective or General Elective</i>	<b><i>Operating Systems</i></b>	General Elective
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#### Spring Semester

General Elective	<b><i>Senior Project</i></b>	General Elective	General Elective
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# COMPUTER SCIENCE

## SAMPLE SCHEDULE 2

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	Core Class ( <i>Calculus</i> )	Core class	English, Chinese, Core, or GE
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#### Spring Semester

<i>Writing Seminar</i>	Core class	Core class or GE	English, Chinese, Core, or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b>Core class (<i>Intro to Programming/Computer Science</i>)</b>	<b><i>Discrete Mathematics</i></b>	Core class, GE, or Chinese
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#### Spring Semester

Core class	<i>Introduction to Computer Science or Data Structures</i>	<i>Computer Architecture</i>	Core class, GE, or Chinese
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### Year 3

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#### Fall Semester

Computer Science Elective	<b><i>Data Structures or Computer Science Elective</i></b>	<b><i>Probability and Statistics</i></b> or alternate courses, see pg. 128	General Elective
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#### Spring Semester

General Elective	Computer Science Elective	<b><i>Algorithms</i></b>	General Elective
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### Year 4

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#### Fall Semester

General Elective	Computer Science Elective or General Elective	<b><i>Operating Systems</i></b>	General Elective
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#### Spring Semester

Computer Science Elective	<b><i>Senior Project</i></b>	General Elective	General Elective
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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:** Student must take MATH-SHU 121 Calculus (or MATH-SHU 201 Honors Calculus) to satisfy the Mathematics requirement in the core curriculum.

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.

### Prerequisite 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 or BIOL-SHU 42 Biostatistics

### Required Major Courses

- **Programming & Computer Science - One Course**

CSCI-SHU 210 Data Structures

- **Mathematics - Two Courses**

MATH-SHU 123 Multivariable Calculus or ECON-SHU 5 Math for Economists (2 credits) or ECON-SHU 201 Math for Economists (4 credits)  
MATH-SHU 140 Linear Algebra

- **Data Analysis - Three Courses**

CSCI-SHU 235 Information Visualization  
CSCI-SHU 360 Machine Learning  
ECON-SHU 301 Econometrics

- **Data Management - One Course**

CSCI-SHU 283 Introduction to Databases

- **Concentration Courses**

Two domain-area courses  
Senior project or another domain-area course

*\*Please refer to the Academic Advising Website for concentration options.*

# DATA SCIENCE

## SAMPLE SCHEDULE 1

*This is just one example of how a student could organize their courses if pursuing a Data Science major. It assumes a student begins taking Data Science major courses in their freshmen year, see Sample Schedule 2 for a sample plan which begins in sophomore year. Students may propose alternative course sequences to their advisors as well.*

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	<i>Core Class (Calculus)</i>	<b>Core class (<i>Intro to Programming/ Computer Science</i>)</b>	English, Chinese, Core, or GE
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#### Spring Semester

<i>Writing Seminar</i>	<b><i>Probability and Statistics</i> or alternate courses, see pg. 137</b>	<b><i>Machine Learning</i></b>	English, Chinese, Core, or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b><i>Intro to Computer Science or Data Structures</i></b>	<b><i>Multivariable Calculus OR Math for Economists</i></b>	Core class, GE, or Chinese
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#### Spring Semester

Core class	<b><i>Data Structures or Domain-area class</i></b>	<b><i>Econometrics</i></b>	Core class, GE, or Chinese
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### Year 3

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#### Fall Semester

Core class or GE	<b><i>Databases</i></b>	Domain-area class	General Elective
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#### Spring Semester

Core class or GE	<b><i>Linear Algebra</i></b>	Domain-area class or General Elective	General Elective
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### Year 4

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#### Fall Semester

General Elective	<b><i>Information Visualization</i></b>	General Elective	General Elective
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#### Spring Semester

General Elective	<b><i>Senior Project or another domain-area course</i></b>	General Elective	General Elective
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# DATA SCIENCE

## SAMPLE SCHEDULE 2

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	Core Class ( <i>Calculus</i> )	Core class	English, Chinese, Core, or GE
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#### Spring Semester

<i>Writing Seminar</i>	Core class	Core or General Elective	English, Chinese, Core, or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b>Core class (<i>Intro to Programming/ Computer Science</i>)</b>	<b><i>Multivariable Calculus OR Math for Economists</i></b>	Core class, GE, or Chinese
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#### Spring Semester

<b><i>Machine Learning</i></b>	<b><i>Intro to Computer Science or Data Structures</i></b>	<b><i>Probability and Statistics</i> or alternate courses, see pg. 137</b>	Core class, GE, or Chinese
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### Year 3

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#### Fall Semester

<b><i>Econometrics</i></b>	<b><i>Data Structures or Domain-area class</i></b>	<b><i>Databases</i></b>	General Elective
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#### Spring Semester

Core class	<b><i>Linear Algebra</i></b>	Domain-area class	General Elective
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### Year 4

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#### Fall Semester

General Elective	<b><i>Information Visualization</i></b>	Domain-area class or General Elective	General Elective
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#### Spring Semester

General Elective	<b><i>Senior Project or another domain-area course</i></b>	General Elective	General Elective
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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 Engineering Systems 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 Engineering Systems 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 Engineering Systems students are involved in the design process and the progression of technological inventions.

## REQUIREMENTS FOR THE MAJOR

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**Note:** Student must take MATH-SHU 121 Calculus (or MATH-SHU 201 Honors Calculus) to satisfy the Mathematics requirement in the core curriculum.

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 Systems
CSCI-SHU 101	Introduction to Computer Science
CSCI-SHU 210	Data Structures
CSCI-SHU 215	Operating Systems
CSCI-SHU 2314	Discrete Mathematics
EENG-SHU 251	Circuits
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	Multivariable Calculus
MATH-SHU 123	Networks and Dynamics
MATH-SHU 160	Linear Algebra and Differential Equations or
MATH-SHU 265	MATH-SHU 235 Probability and Statistics or MATH-SHU 233 Theory of Probability or BUSF-SHU 101 Statistics for Business and Economics

### Computer Engineering Systems Electives - Choose One

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.

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 375	Robotic Systems

**Note:** Rapid Prototyping or a similar IMA course is highly recommended as a general elective.

# COMPUTER ENGINEERING SYSTEMS

## SAMPLE SCHEDULE 1

*This is just one example of how a student could organize their courses if pursuing a CE major. It assumes a student begins taking CE major courses in their freshmen year, see Sample Schedule 2 for a sample plan which begins in sophomore year. Students may propose alternative course sequences to their advisors as well.*

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	<i>Core Class (Calculus)</i>	<i>Intro to Programming/ Computer Science</i>	English, Chinese, Core, or GE
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#### Spring Semester

<i>Writing Seminar</i>	<i>Introduction to Computer Science or Rapid Prototyping (or similar IMA course)</i>	<i>Multivariable Calculus</i>	English, Chinese, Core, or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<i>Digital Logic</i>	<i>Physics I &amp; Lab</i>	Core class, GE, or Chinese
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#### Spring Semester

<i>Intro to Computer Science or Data Structures</i>	<i>Circuits</i>	<i>Physics II &amp; Lab</i>	Core class, GE, or Chinese
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### Year 3

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#### Fall Semester

<i>Data Structures or Core class</i>	<i>Operating Systems</i>	<i>Probability and Statistics or alternate courses, see pg. 141</i>	<i>Computer Architecture</i>
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#### Spring Semester

<i>Electronics</i>	<i>Linear Algebra and Differential Equations OR Networks and Dynamics</i>	<i>Embedded Systems</i>	<i>Discrete Math</i>
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### Year 4

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#### Fall Semester

Core class or GE	Core class or GE	Computer Engineering Elective	General Elective
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#### Spring Semester

Core class or GE	<i>Senior Capstone Design Project</i>	General Elective	General Elective
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# COMPUTER ENGINEERING SYSTEMS

## SAMPLE SCHEDULE 2

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	Core Class ( <i>Calculus</i> )	Physics I & Lab	English, Chinese, Core, or GE
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#### Spring Semester

<i>Writing Seminar</i>	Core class or GE	Physics II & Lab	English, Chinese, Core, or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<i>Intro to Programming/ Computer Science</i>	<i>Multivariable Calculus</i>	Core class
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#### Spring Semester

<i>Circuits</i>	<i>Introduction to Computer Science or Rapid Prototyping (or similar IMA course)</i>	<i>Probability and Statistics</i> or alternate courses, see pg. 141	Core class or GE
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### Year 3

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#### Fall Semester

<i>Electronics</i>	<i>Intro to Computer Science or Data Structures</i>	<i>Operating Systems</i>	<i>Embedded Systems</i>
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#### Spring Semester

<i>Digital Logic</i>	<i>Data Structures</i> or Core class	<i>Linear Algebra and Differential Equations OR Networks and Dynamics</i>	<i>Discrete Math</i>
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### Year 4

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#### Fall Semester

Core class	Computer Engineering Elective	General Elective	General Elective or Chinese
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#### Spring Semester

<i>Senior Design Project</i>	<i>Computer Architecture</i>	General Elective	General Elective or Chinese
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Electrical Engineering Systems at NYU Shanghai is designed to create technological leaders with a global perspective, a broad education, and the capacity to think creatively. Innovations by electrical engineers touch every aspect of modern life, from the subway systems beneath our cities to the HD televisions on our walls to the smartphones in our pockets. But this process of innovation is never complete, and new challenges await tomorrow's electrical engineers.

The Electrical Engineering Systems 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 to 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 to develop an understanding of cultural, political, economic, environmental, and public safety considerations. These studies often include hands-on coursework in state-of-the-art laboratories. In addition, the variety of specialized subjects students can investigate through elective coursework — from wireless communication to smart grid power systems — ensures a highly flexible education suited to individual interests.

## REQUIREMENTS FOR THE MAJOR

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**Note:** Student must take MATH-SHU 121 Calculus (or MATH-SHU 201 Honors Calculus) to satisfy the Mathematics requirement in the core curriculum.

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
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/ EENG-SHU 401	Senior Capstone Design Project (4-credit project taken in the spring semester of senior year)
MATH-SHU 123	Multivariable Calculus
MATH-SHU 235	Probability and Statistics or MATH-SHU 233 Theory of Probability or Statistics for Business and Economics
MATH-SHU 265	Linear Algebra and Differential Equations or MATH-SHU 160 Networks and Dynamics

### Electrical Engineering Electives

- Choose 2 from these 4 courses:**

EENG-SHU 356	Communication Systems
EENG-SHU 364	Feedback Control
EE-UY 112/EE-UY 3124	Fundamentals of Electronics II (offered in New York)
EE-UY 3824	Electric Energy Conversion Systems (offered in New York)

- Choose 2 more from the following list:**

CENG-SHU 350	Embedded 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 ENGINEERING SYSTEMS

## SAMPLE SCHEDULE 1

*This is just one example of how a student could organize their courses if pursuing a EE major. It assumes a student begins taking EE major courses in their freshmen year, see Sample Schedule 2 for a sample plan which begins in sophomore year. Students may propose alternative course sequences to their advisors as well.*

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	Core Class (Calculus)	<i>Intro to Programming/ Computer Science</i>	English, Chinese, Core, or GE
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#### Spring Semester

<i>Writing Seminar</i>	<i>Multivariable Calculus</i>	<i>Linear Algebra and Differential Equations OR Networks and Dynamics</i>	English, Chinese, Core, or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<i>Physics I &amp; Lab</i>	<i>Digital Logic</i>	Core class, GE, or Chinese
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#### Spring Semester

Core class or GE	<i>Physics II &amp; Lab</i>	<i>Circuits</i>	Core class, GE, or Chinese
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### Year 3

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#### Fall Semester

Core class or GE	<i>Electronics</i>	<i>Electromagnetic Fields and Waves</i>	<i>Signals and Systems</i>
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#### Spring Semester

General Elective	Electrical Engineering Elective	Electrical Engineering Elective	General Elective
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### Year 4

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#### Fall Semester

<i>Probability and Statistics</i> or alternate courses, see pg. 145	Electrical Engineering Elective	Electrical Engineering Elective	General Elective
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#### Spring Semester

General Elective	<i>Senior Capstone Design Project</i>	General Elective	General Elective
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# ELECTRICAL ENGINEERING SYSTEMS

## SAMPLE SCHEDULE 2

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	Core Class ( <i>Calculus</i> )	<i>Physics I &amp; Lab</i>	English, Chinese, Core, or GE
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#### Spring Semester

<i>Writing Seminar</i>	<b><i>Multivariable Calculus</i></b>	<i>Physics II &amp; Lab</i>	<b><i>Intro to Programming/Computer Science</i></b>	2-credit English or Chinese (if available)
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b><i>Digital Logic</i></b>	Core Class	Core Class
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#### Spring Semester

Core class or GE	<b><i>Circuits</i></b>	<b><i>Linear Algebra and Differential Equations OR Networks and Dynamics</i></b>	Core class or GE
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### Year 3

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#### Fall Semester

<b><i>Electronics</i></b>	<b><i>Signals and Systems</i></b>	<b><i>Electromagnetic Fields and Waves</i></b>	General Elective
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#### Spring Semester

<b><i>Probability and Statistics</i></b> or alternate courses, see pg. 145	Electrical Engineering Elective	Electrical Engineering Elective	General Elective
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### Year 4

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#### Fall Semester

General Elective or Chinese	Electrical Engineering Elective	Electrical Engineering Elective	General Elective
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#### Spring Semester

General Elective or Chinese	<b><i>Senior Capstone Design Project</i></b>	General Elective	General Elective
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# **SOCIAL SCIENCES**

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**BUSINESS AND FINANCE**

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**BUSINESS AND MARKETING**

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**ECONOMICS**

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**SOCIAL SCIENCE**

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# BUSINESS AND FINANCE

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

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### Major Requirements

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 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.

### 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 150	Microeconomics
ECON-SHU 251	Economics of Global Business

### Finance Core

BUSF-SHU 303	Corporate Finance
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### Business Electives - Choose Two

BUSF-SHU 142	Information Technology in Business and Society
BUSF-SHU 210	Business Analytics
BUSF-SHU 351	Competitive Advantage from Operations
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 306	The Chinese Financial System
BUSF-SHU 352	Mergers & Acquisitions
BUSF-SHU 353	International Financial Management

### Non-Finance Electives - Choose Two from the Following Areas

- **Accounting**
- **Management**
- **Marketing\***
- **Operations**
- **Information System**

### China Business Studies - Choose One

BPEP-SHU 9042 (formerly ECON-SHU 211)	The Political Economy of East Asia
BUSF-SHU 206	Doing Business in China

*\* 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.*

# 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 their freshmen year. Students may propose alternative course sequences to their advisors as well.*

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	<i>Core Class (Calculus)</i>	Core class	English, Chinese, Core or GE
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#### Spring Semester

<i>Writing Seminar</i>	<b><i>Principles of Microeconomics</i></b>	<b><i>Statistics for Business and Economics</i></b>	English, Chinese, Core or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b><i>Principles of Financial Accounting</i></b>	<b><i>Foundations of Finance</i></b>	Core class, GE, or Chinese
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#### Spring Semester

Core class, GE, or Chinese	<b><i>Economics of Global Business</i></b>	<b><i>Corporate Finance</i></b>	Core class, GE, or Chinese
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### Year 3

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#### Fall Semester

Core class or GE	Business Core Elective	Finance Elective or Non-Finance Elective	Core class or GE
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#### Spring Semester

General Elective	Business Core Elective	Finance Elective or Non-Finance Elective	Core class or GE
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### Year 4

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#### Fall Semester

General Elective	Non-Finance Elective or Finance Elective or <b><i>China Business Studies</i></b>	Finance Elective or Non-Finance Elective	General Elective
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#### Spring Semester

General Elective	Non-Finance Elective or Finance Elective or <b><i>China Business Studies</i></b>	General Elective	General Elective
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# 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

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### Major Requirements

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 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.

#### 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 150	Microeconomics
ECON-SHU 251	Economics of Global Business

#### Marketing Core

MKTG-SHU 1	Introduction to Marketing
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#### 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	Competitive Advantage from Operations
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.*

MKTG-SHU 2	Consumer Behavior*
MKTG-SHU 3	Advertising
MKTG-SHU 9	Research for Customer Insights*
MKTG-SHU 57	Digital Marketing
MKTG-SHU 53	Pricing

*\* At least one of these must be chosen as an Elective.*

#### Non-Marketing Electives - Choose Two from the Following Areas\*

- **Accounting**
- **Management**
- **Finance\***
- **Operations**
- **Information System**

#### China Business Studies - Choose One

BPEP-SHU 9042 (formerly ECON-SHU 211)	The Political Economy of East Asia
BUSF-SHU 206	Doing Business in China

*\* 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 their freshmen year. Students may propose alternative course sequences to their advisors as well.*

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	Core Class ( <i>Calculus</i> )	Core class	English, Chinese, Core, or GE
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#### Spring Semester

<i>Writing Seminar</i>	<b><i>Principles of Microeconomics</i></b>	<b><i>Statistics for Business and Economics</i></b>	English, Chinese, Core, or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b><i>Principles of Financial Accounting</i></b>	<b><i>Foundations of Finance or Introduction to Marketing</i></b>	Core class, GE, or Chinese
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#### Spring Semester

Core class, GE, or Chinese	<b><i>Economics of Global Business</i></b>	<b><i>Foundations of Finance or Introduction to Marketing</i></b>	Core class, GE, or Chinese
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### Year 3

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#### Fall Semester

Core class or GE	Business Core Elective	Marketing Elective or Non-Marketing Elective	Core class or GE
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#### Spring Semester

General Elective	Business Core Elective	Marketing Elective or Non-Marketing Elective	General Elective
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### Year 4

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#### Fall Semester

General Elective	Non-Marketing Elective or Marketing Elective or <b><i>China Business Studies</i></b>	Non-Marketing Elective or Marketing Elective	General Elective
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#### Spring Semester

General Elective	Non-Marketing Elective or Marketing Elective or <b><i>China Business Studies</i></b>	General Elective	General Elective
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Perhaps the best way to understand the world you live in is 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, 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

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### Major Requirements

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 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.

### Required Courses

BUSF-SHU 101	Statistics for Business and Economics or MATH-SHU 235
	Probability and Statistics or MATH-SHU 233 Theory of Probability
ECON-SHU 1	Principles of Macroeconomics
ECON-SHU 2	Principles of Microeconomics
ECON-SHU 10	Intermediate Microeconomics
ECON-SHU 202	Intermediate Macroeconomics
ECON-SHU 301	Econometrics

### Advanced Economics Courses - Choose Two

ECON-SHU 201	Mathematics for Economists
ECON-SHU 225	Advanced Economic Theory
ECON-SHU 409	Advanced Topics in Macroeconomics
ECON-SHU 416	Game Theory and Strategy
ECON-SHU 423	Econometrics for High Dimensional and Financial Data

### Economics Electives - Choose Four

BPEP-SHU 9042	The Political Economy of East Asia: (formerly ECON-SHU 211)
ECON-SHU 5	Math for Econ 1: Optimization (0.5 class since 2 credits)
ECON-SHU 207	Urban and Real Estate Economics
ECON-SHU 213	Causal Inference
ECON-SHU 238	History of Modern Economic Growth: Exploring China From a Comparative Perspective.
ECON-SHU 306	Economics of Education
ECON-SHU 316	Industrial Organization
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
MATH-SHU 160	Networks & Dynamics

# 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 their freshmen year, see Sample Schedule 2 for a sample plan which begins in sophomore year. Students may propose alternative course sequences to their advisors as well.*

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	Core Class ( <i>Calculus</i> )	Core class	English, Chinese, Core, or GE
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#### Spring Semester

<i>Writing Seminar</i>	<b><i>Principles of Macroeconomics</i></b>	<b><i>Principles of Microeconomics</i></b>	English, Chinese, Core, or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b><i>Intermediate Microeconomics</i></b>	<b><i>Statistics for Business and Economics</i></b>	Core class, GE, or Chinese
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#### Spring Semester

Core class, GE, or Chinese	<b><i>Intermediate Macroeconomics</i></b>	<b><i>Econometrics</i></b>	Core class, GE, or Chinese
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### Year 3

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#### Fall Semester

Core class or GE	General Elective	Economics Elective	General Elective
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#### Spring Semester

Core class or GE	General Elective	Economics Elective	General Elective
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### Year 4

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#### Fall Semester

General Elective	Economics Elective	<b>Advanced Economics course</b>	General Elective
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#### Spring Semester

General Elective	Economics Elective	<b>Advanced Economics course</b>	General Elective
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# ECONOMICS

## SAMPLE SCHEDULE 2

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	Core Class ( <i>Calculus</i> )	Core class	English, Chinese, Core, or GE
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#### Spring Semester

<i>Writing Seminar</i>	Core class or GE	Core class or GE	English, Chinese, Core, or GE
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b><i>Principles of Macroeconomics</i></b>	<b><i>Principles of Microeconomics</i></b>	Core class, GE, or Chinese
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#### Spring Semester

Core class, GE, or Chinese	<b><i>Intermediate Macroeconomics</i></b>	Core class or GE, or <b><i>Statistics for Economics</i></b>	Core class, GE, or Chinese
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### Year 3

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#### Fall Semester

General Elective	Core class or GE, or <b><i>Statistics for Economics</i></b>	<b><i>Intermediate Microeconomics</i></b>	Economics Elective
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#### Spring Semester

General Elective	<b><i>Econometrics</i></b>	Economics Elective	General Elective
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### Year 4

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#### Fall Semester

General Elective	Economics Elective	<b><i>Advanced Economics course</i></b>	General Elective
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#### Spring Semester

General Elective	Economics Elective	<b><i>Advanced Economics course</i></b>	General Elective
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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:** Calculus is the recommended math course for students pursuing a social science major because many major courses require Calculus as the prerequisite.

### Major Requirements

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.

#### 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	Introduction to Macroeconomics
ECON-SHU 2	Principles of Microeconomics
ECON-SHU 251	Economics of Global Business
PSYC-SHU 101	Introduction to Psychology
SOCS-SHU 150	Introduction to Comparative Politics
SOCS-SHU 160	Introduction to International Politics

#### 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

ECON-SHU 201	Mathematics for Economists*
ECON-SHU 213	Causal Inference in the Social Sciences
ECON-SHU 301	Econometrics
MATH-SHU 20	Statistics for the Social and Behavioral Sciences or
BUSF-SHU 101	Statistics for Business and Economics or
MATH-SHU 235	Probability and Statistics
MATH-SHU 245	Mathematical Choice Theory
SOCS-SHU 141	Methods of Social Research

*\*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

- **New Challenges in Social Science**

##### Sample Courses

GCHN-SHU 240	Modern Chinese Governance
GCHN-SHU 270	Researching Chinese Politics and Society
SOCS-SHU 234	Image as Evidence
SOCS-SHU 301	Complexity

**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**

These courses give students an in-depth look at one specific topic or one field. In consultation with their faculty mentor, students may choose to focus in a particular social science discipline or on one topic from an interdisciplinary perspective.

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 202	Intermediate Macroeconomics
ECON-SHU 203	History of Economic Thought
ECON-SHU 204	Ethics and Economics
ECON-SHU 205	Poverty and Income Distribution
ECON-SHU 206	Economics of Energy and the Environment
ECON-SHU 207	Urban Economics
ECON-SHU 209	Financial Crises
ECON-SHU 212	Contemporary Chinese Economic Issues
ECON-SHU 225	Advanced Economic Theory
ECON-SHU 238	History of Modern Economic Growth: Exploring China From a Comparative Perspective (Chinese Economic History)
ECON-SHU 260	International Trade
ECON-SHU 353	Public Economics
ECON-SHU 255	Economic Development
ECON-SHU 368	Financial Economics
GCHN-SHU 241	Chinese Revolutions
GCHN-SHU 243	Chinese Environmental Studies / Topics in Environmental Studies
GCHN-SHU 252	20th-Century East Asia-U.S. Relations
INTM-SHU 225	Media and Participation
MCC-SHU 9451	Global Media Seminar: China
PSYC-SHU 329	Parenting and Culture
SOCS-SHU 226	Poverty and Inequality Around the Globe
SOCS-SHU 251	Law, Culture, and Politics in China
SOCS-SHU 272	The U.S. Constitution: Is It Relevant to China?
SOCS-SHU 306	Pestilence: Critical Perspectives in Global Health
SOCS-SHU 450	Chinese Environmental Government

### **Focus Options: Discipline-Specific or Self-Designed Topic**

*For the major focus, Social Science majors work with their faculty mentors to design a track. This track may be a disciplinary focus in Anthropology, Political Science, Psychology, or Sociology, or a self-designed interdisciplinary topic track. Students who choose a disciplinary track must complete all focus courses in that discipline, and must also work within the discipline in the Capstone project. Students who choose an interdisciplinary track must complete three focus courses related to the topic, which must also be reflected in the Capstone project. The student's track will appear on his/her transcript; if the track is self-designed, the title agreed on by the student and faculty mentor will appear. Students who plan to pursue a focus in Economics are advised to major in Economics instead.*

### **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 area of focus 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

## 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 their freshmen year, see Sample Schedule 2 for a sample plan which begins in sophomore year. Students may propose alternative course sequences to their advisors as well.*

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	Core Class	Core class	English or Chinese
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#### Spring Semester

<i>Writing Seminar</i>	<b>Foundational Course</b>	Core class	English or Chinese
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<b>Foundational Course</b>	<b>Social Science Core</b>	Core class, or Chinese
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#### Spring Semester

General Elective	Core class	<b>Social Science Core</b>	Core class, or Chinese
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### Year 3

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#### Fall Semester

Core class or GE	Core class	<b>Focus Course</b>	General Elective
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#### Spring Semester

Core class or GE	<b>Methods Course</b>	<b>Focus Course</b>	General Elective
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### Year 4

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#### Fall Semester

General Elective	<b>Focus Course</b>	<b>Methods Course</b>	General Elective
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#### Spring Semester

General Elective	General Elective	<b>Capstone Course</b>	General Elective
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# Social Science

## SAMPLE SCHEDULE 2

### Year 1

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#### Fall Semester

<i>Global Perspectives on Society</i>	Core Class	Core class	English or Chinese
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#### Spring Semester

<i>Writing Seminar</i>	General Elective	Core class	English or Chinese
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### Year 2

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#### Fall Semester

<i>Perspectives on the Humanities</i>	<i>Foundational Course</i>	<i>Social Science Core</i>	Core class, or Chinese
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#### Spring Semester

General Elective	Core class	<i>Social Science Core</i>	Core class, or Chinese
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### Year 3

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#### Fall Semester

General Elective	<i>Foundational Course</i>	<i>Focus Course</i>	Core class or GE
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#### Spring Semester

General Elective	<i>Methods Course</i>	<i>Focus Course</i>	Core class or GE
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### Year 4

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#### Fall Semester

General Elective	<i>Focus Course</i>	<i>Methods Course</i>	General Elective
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#### Spring Semester

General Elective	Core class	<i>Capstone Course</i>	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 Global Network University, drawing on courses from any of the study away sites and portal 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.

## **Additional Majors and Minors at New York University Shanghai**

### **Requirements for an Additional or Double Major**

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See Page 31.

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

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See Page 31.

# REQUIREMENTS FOR MINORS

The courses required for NYU Shanghai Minors are:

## **Molecular and Cell Biology Minor**

- BIOL-SHU 21 Foundations of Biology I
- BIOL-SHU 22 Foundations of Biology II
- BIOL-SHU 30 (Formerly 264) Genetics or BIOL-SHU 263 Developmental Biology
- BIOL-SHU 123 FoS Biology Laboratory
- 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

## **Genomics and Bioinformatics Minor**

- BIOL-SHU 21 Foundations of Biology I
- BIOL-SHU 22 Foundations of Biology II
- BIOL-SHU 123 FoS Biology Laboratory
- 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 2 Principles of Microeconomics
- ECON-SHU 251 Economics of Global Business
- MATH-SHU 121 Calculus

### **Choose One Elective Course**

- 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 Information 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 + Lab
- CHEM-SHU 226 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 passed out of with other Chinese language classes higher than the level(s) they passed out of.**

*Example 1:*

GCS major who doesn't place out of Intermediate I must do the following for the Chinese minor:

1. Intermediate I
2. Intermediate II
3. Advanced I and Advanced II (but can only count one towards the minor, because they are also required for GCS major.)
4. 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

1. Advanced Chinese II (double counting one course between the major and the minor).
2. 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
- CSCI-SHU 210 Data Structures
- One computer science elective course

### **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
- 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
- ECON-SHU 1 Introduction to Macroeconomics
- 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

### **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 Intro 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  
CCSC-SHU 53
- 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 University Minor**

Students can complete a Global Network Minor using classes from one or more of eleven Study Away Sites or the portal campuses in the 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 Global Network University drawing on courses from any of the study away sites or portal campuses. Even if all of the classes are from a single department in one of the other portal campuses or is identical to a minor offered on one of those campuses, the GNU 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.

GNU minors may be completed using courses taken at the associated study away site or portal 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 GNU 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 GNU 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**

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 compete any of those Minors will have them identified by name as a Cross-School Minor on the student transcript.

# {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-lifes, 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.

*Prerequisite: None.*

*This course satisfies: Core Curriculum: Culture Foundations: Chinese Art.*

ART-SHU 225A

### **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. Students enrolling for 2 credits fulfill just the dance requirement. All levels are welcome. No previous experience is required.

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 301**  
**Introduction to Photography I**

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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.

*Prerequisite: None.*

*This course satisfies: Core Curriculum: Culture Foundations: Chinese Art.*

**ART-SHU 380**  
**Projects in Photography**

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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.

*Prerequisite: Instructor Consent Required.*

*This course satisfies: Core Curriculum: Culture Foundations: Chinese Art.*

**ART-SHU 1050**  
**Acting: Fundamentals**

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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.

**ART-SHU 1910**  
**Projects in Studio Art - Chinese Traditional Methods in Contemporary Art**

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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-lifes 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.

*Prerequisite: Instructor Consent Required.*

*This course satisfies: Core Curriculum: Culture Foundations: Chinese Art.*

**MUS-SHU 56**  
**Piano (Private Lessons)**

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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.

MUS-SHU 56.2

**Piano (Private Lessons)**

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.

MUS-SHU 1085

**Choral Arts: NYU Shanghai Chorale**

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 1351

**Music Theatre History I**

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**

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**

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**

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

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## BIOL-SHU 21 **Foundations of Biology I**

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*This course satisfies: Biology Major: Requirement: Foundations of Science II (3+4)*

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## BIOL-SHU 22 **Foundations of Biology II**

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*Prerequisite: CCSC-SHU 110 or BIOL-SHU 21.*

*This course satisfies: Biology Major: Requirement: Foundations of Science II (5+6)*

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## BIOL-SHU 30 (formerly 264) **Genetics**

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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-SHU 22.*

*This course satisfies: Biology Major Electives.*

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## BIOL-SHU 37 (formerly 210) **Applied Cell Biology**

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Understanding the fundamental methods for growing and studying cells—the smallest units of life—is basic to biology. This course introduces students to the methods used to study cell structure and function. In the laboratory, students study the fundamentals of cell biology and the experimental approaches used to examine the cell. Topics cover cellular, subcellular, and macromolecule localization; biochemical analysis of the cell; and cell culture techniques. Accurate record-keeping, reports, and presentations are emphasized.

*Prerequisite: CCSC-SHU 113 or BIOL-SHU 22.*

*This course satisfies: Biology Major Electives.*

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## BIOL-SHU 42 (formerly 251) **Biostatistics**

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The ability to organize and analyze biological and behavioral science data is an essential research tool. This course provides an introduction to the use of statistical methods for analyzing this data. It introduces methods for describing and displaying data, the role and use of probability in describing and understanding living systems, hypotheses testing, and how to design experiments. Biological and behavioral science data and R—a free, open-source statistical software package—are used to gain proficiency with these tools.

*This course satisfies: Biology Major Additional Required Courses.*

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## BIOL-SHU 44 (formerly 265) **Microbiology and Microbial Genomics**

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A comprehensive description of microbes, the most abundant and diverse organisms on the planet. Organized into four modules: the microbial cell, microbial genomics, microbial development and adaptation, and microbial interactions with the host and the environment. Through lectures and critical analysis of primary literature, students are led to realize how the advent of genomics has revolutionized microbiology, a scientific discipline that is more than a century old.

*Prerequisite: BIOL-SHU 250.*

*This course satisfies: Biology Major Electives.*

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## BIOL-SHU 50 (formerly 252) **Immunology**

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Introduction to immunology, with attention to the genetics, molecular, and cell biology of antibody production; T-cell mediated immune responses; and innate immunity. Topics include the nature of antigens, hypersensitivities, transplantation, cytokines, autoimmunity, cancer, response to infection, and vaccines.

*Prerequisite: BIOL-SHU 250.*

*This course satisfies: Biology Major Electives.*

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## BIOL-SHU 58 (formerly 258) **Evolution**

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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-SHU 109*

*This course satisfies: Biology Major Electives.*

**BIOL-SHU 123**

### **FoS Biology Laboratory**

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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.

FoS 5&6 labs are regarded as an extension to what the course lectures teach rather than a direct linear relationship whereby a lecture is directly applied in the lab. The pre-labs that are given as lectures before the actual lab begins span a weekly 30-45 min and explain the principles behind the techniques that the students will apply that lab. Students are required to study the lab procedure in advance and be prepared for a quiz and discussion of the material.

#### *Learning Outcomes:*

This course aims at teaching students how to think like a true researcher as well as apply the key molecular biology techniques. During this course, students will be expected to: gain an understanding of the basics of molecular biology techniques and be able to apply these techniques in the lab; acquire the habits of a good scientist including accuracy, cleanliness, orderliness, safety, honesty, teamwork, curiosity, good time management, and self-reliance; develop the ability to convey scientific information; this includes keeping good records with in a lab notebook, writing a satisfactory report, and oral communication; draw conclusions from observed facts and support these conclusions with peer-reviewed literature.

*This course satisfies: Biology Major Requirement: Foundations of Science III (5+6).*

**BIOL-SHU 250**

### **Organismal Biology**

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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 CCSC-SHU 114 or BIOL-SHU 21.*

*This course satisfies: Biology Major: Additional Required Courses.*

**BIOL-SHU 261**

### **Genomics and Bioinformatics**

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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: Basic programming experience is required, preferably with R. FoS biology is preferred, but not required.*

*This course satisfies: Biology Major Electives.*

**BIOL-SHU 263**

### **Developmental Biology**

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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-SHU 250, or Foundations of Science III Biology, or Foundations of Biology II.*

*This course satisfies: Biology Major Electives.*

BIOL-SHU 266

### **Molecular and Cellular Biology**

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BIOL-SHU 267

### **Microbiology**

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Microbiology. Bacterial viruses. Assembly of macromolecular structures. Regulation of gene expression. Transduction. Phage that carry disease causing genes. Phage display. Animal viruses: HIV, influenza, polio. Bacteria. DNA replication. Cell walls. Division into Gram positive and negative. Control of gene expression. Turning on large sets of genes. Conjugation and transformation. Antibiotics and antibiotic resistance. Transposons. Immunology. Mechanisms of bacterial virulence. Major chemical cycles mediated by bacteria. Archaea and extreme environments. Protists and protozoa. The eukaryotic cell and single- celled organisms with sophisticated functions. Algae and algal products.

*Prerequisites: None. Recommended: BIOL-SHU 21 and 22 - Foundations of Biology I and II, and BIOL-SHU 264 Genetics.*

*This course satisfies: Biology Major Electives.*

BIOL-SHU 997

### **Independent Study - Biology**

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*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 999

### **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.)

BIOL-SHU 1128 (formerly 262)

### **Systems Biology**

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This course focuses on methods to integrate the diverse data of complex networks and pathways developed from genomics, proteomics, and metabolomics and to understand how they work together forming a system with definable phenotypes. Global approaches as well as mathematical and statistical modeling to data collection and analyses are performed.

*Prerequisites BIOL-SHU 250 and 261.*

*This course satisfies: Biology Major Electives.*

**BUSF-SHU 3**  
**Business Honors Seminar**

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**BUSF-SHU 10J**  
**Creativity and Innovation**

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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.

*Prerequisite: None.*

*This course satisfies: Business and Finance Major: Non-Finance Elective.*

**BUSF-SHU 101**  
**Statistics for Business and Economics**

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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.*

*This course satisfies: Business and Finance Major: Prerequisite Courses; Business and Marketing Major: Prerequisite Courses.*

**BUSF-SHU 142**  
**Information Technology in Business & Society**

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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.

*This course satisfies: Business and Finance Major: Business Core Classes; Business and Marketing Major: Business Core Classes.*

**BUSF-SHU 185J**  
**The Strategist**

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**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.*

*This course satisfies: Business and Finance Major: Non-Finance Elective; Business and Marketing Major: Non-Marketing Elective.*

**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.

*Instructor Consent Required*

*This course satisfies: Business and Finance Major: Non-Finance Elective; Business and Marketing Major: Non-Marketing Elective.*

**BUSF-SHU 191**

### **Acting for Business**

*Perception may or may not be Reality. But Perception is, in fact, what Influences. This course focuses on how to publicly influence listeners' perception of you & how to more effectively express one's self through the use of practical, hands-on tools from Acting in professional, live Theatre. This experiential course challenges participants to "get out of themselves", to expand their comfort zones when communicating in public, to take risks, & to think more flexibly - all toward becoming more free, accessible, grounded, less risk-averse, & more expressive, daring, focused, purposeful, personally-connected & confident in subsequent business communications. The course has been referred to as "Executive Presence", "Cross Training For Business People", "Ethical Acting" & even "Charisma 101". It will not improve your PowerPoint - but will improve the communicator standing in front of your PowerPoint.*

*This course satisfies Business and Finance Major: Non-Finance Elective; Business and Marketing Major: Non-Marketing Elective.*

**BUSF-SHU 200**

### **Topics in Business Social Media and Business**

*This course satisfies: Business and Finance Major: Non-Finance Elective; Business and Marketing Major: Non-Marketing Elective.*

**BUSF-SHU 201**

### **Global Perspectives on Enterprise Systems**

*This course compares the development of rich and "emerging market" societies over time. Through both macro- and micro-economic perspectives, students examine political, cultural, and*

economic similarities and differences of national enterprise systems, paying special attention to impacts of government, financial institutions, entrepreneurship and management.

*Prerequisite: None.*

*This course satisfies: Business and Finance Major: Non-Finance Elective.*

**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-SHU 101 and ECON-SHU 150.*

*This course satisfies: Business and Finance Major: Business Core Classes.*

**BUSF-SHU 203**

**Industrial and Organizational Psychology**

Personal, social, and environmental factors related to people's attitudes and performance in industry and other organizations. Topics include personnel selection and evaluation, training and development, attitudes and motivation, leadership, group dynamics, organizational structure and climate, and job design and working conditions.

*Prerequisite: None.*

**BUSF-SHU 204**

**Innovation and Design**

Creativity and innovation are the key drivers of success for many of today's leading companies. This course will focus on developing breakthrough design thinking, an essential element of such companies' creative culture. The course provides many opportunities to apply these new ways of thinking through class exercises and a course project, where students develop creative concepts for an assigned topic.

*Prerequisite: None.*

**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 (formerly Doing Business in 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 and the outward expansion of Chinese firms. The course will 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: Foundations of Finance, Corporate Finance and Economics of Global Business (or Macroeconomics).*

**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.*

*This course satisfies: Business and Finance Major: Additional Finance Electives; Business and Marketing Major: Additional Marketing Electives.*

**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.

*This course satisfies: Business and Finance Major: Additional Finance Electives.*

**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.

*Prerequisite: A prior Statistics Course.*

*This course satisfies: Business and Finance Major: Business Core Courses; Business and Marketing Major: Business Core Courses.*

**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.*

*This course satisfies: Business and Finance Major: Non-Finance Elective; Business and Marketing Major: Non-Marketing Elective.*

**Topics in Business: Chinese and International Accounting (2 credits)**

*This course satisfies: Business and Finance Major: Non-Finance Elective; Business and Marketing Major: Non-Marketing Elective.*

**Entrepreneurship Explored**

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.*

*This course satisfies: Business and Finance Major: Non-Finance Elective; Business and Marketing Major: Non-Marketing Elective.*

**BUSF-SHU 250**

### **Principles of Financial Accounting**

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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.*

*This course satisfies: Business and Finance Major: Additional Finance Electives.*

**BUSF-SHU 288**

### **Doing Business in China**

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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.

*This course satisfies: Business and Finance Major: China Business Studies Courses; Business and Marketing Major: China Business Studies Courses.*

**BUSF-SHU 303**

### **Corporate Finance**

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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.*

*This course satisfies: Business and Finance Major: Required Finance Core Course; Business and Marketing Major: Business Core Courses.*

**BUSF-SHU 304**

### **Futures and Options**

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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-SHU 202.*

*This course satisfies: Business and Finance Major: Additional Finance Elective; Business and Marketing Major: Non-Marketing Elective.*

**BUSF-SHU 305**

### **Debt Instruments and Markets**

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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-SHU 202.*

*This course satisfies: Business and Finance Major: Additional Finance Elective; Business and*

*Marketing Major: Non-Marketing Elective.*

**BUSF-SHU 306**

### **The Chinese Financial System**

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*Prerequisite: BUSF-SHU 202.*

*This course satisfies: Business and Finance Major: Additional Finance Elective; Business and Marketing Major: Non-Marketing Elective.*

**BUSF-SHU 321**

### **Equity Valuation**

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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 and Finance Major: Additional Finance Elective.*

**BUSF-SHU 350**

### **Principles of Managerial Accounting**

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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**

### **Competitive Advantage from Operations**

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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.

*Prerequisite: Sophomore Standing.*

*This course satisfies: Business and Finance Major: Non-Finance Elective; Business and Marketing Major: Business Core Courses.*

**BUSF-SHU 352**

### **Mergers and Acquisitions**

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This course presents the theories and empirical evidence on mergers, acquisitions and restructuring, and analyzes the effects of various policy options on the stock values of acquirer and target companies. Findings about the reaction of stock prices to information on control transactions are used to analyze the effects of various policy options in such transactions. Topics related to M&A include evaluating acquisition targets, methods of payment in acquisitions, acquisition strategies, the use of leverage in acquisitions and the effects of acquisitions on bond values, major legal issues, case law, and defensive measures against hostile acquisitions. The course combines lecture material, case analysis, quantitative and qualitative analysis, and discussions of relevant news of such transactions. There is an emphasis on fundamental concepts of valuation and other areas of corporate finance related to M&As.

*Prerequisite: BUSF-SHU 303.*

*This course satisfies: Business and Finance Major: Additional Finance Electives; Business and Marketing Major: Non-Marketing Elective.*

**BUSF-SHU 353**

### **International Financial Management**

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This course examines the operation of international currency exchange and capital markets and applies financial management principles to the financial decisions of multinational corporations. It addresses such topics as economic determinants of exchange rates, currency market efficiency, exchange rate forecasting, techniques for measuring and managing exposure to exchange and political risk and financing alternatives and capital budgeting decisions of multinational corporations. Readings and case studies are employed.

*Prerequisites: BUSF-SHU 303 and ECON-SHU 250.*

**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 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.

*Prerequisite OR Corequisite: Management & Organizations.*

*This course satisfies: Business and Finance Major: Non-Finance Elective.*

**MGMT-SHU 301**  
**Management and Organizations**

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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.*

*This course satisfies: Business and Finance Major: Non-Finance Elective; Business and Marketing Major: Non-Marketing Elective.*

**MKTG-SHU 1**  
**Introduction to Marketing**

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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: None.*

*This course satisfies: Business and Finance Major: Business Core Courses; Business and Marketing*

*Major: One Required Marketing Core Course.*

**MKTG-SHU 2  
Consumer Behavior**

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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.

*This course satisfies: Business and Finance Major: Non-Finance Elective; Business and Marketing Major: Non-Marketing Elective.*

**MKTG-SHU 9  
Research for Customer Insights**

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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.

*This course satisfies: Business and Finance Major: Non-Finance Elective; Business and Marketing Major: Non-Marketing Elective.*

**SOIM-SHU 6  
Law, Business & Society**

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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**

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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.

*This course satisfies: Business and Finance Major: Non-Finance Elective; Business and Marketing Major: Non-Marketing Elective.*

**SOIM-SHU 165  
Advanced Organizational Communication**

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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, impromptus, 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.*

*This course satisfies: Business and Finance Major: Non-Finance Elective; Business and Marketing Major: Non-Marketing Elective.*

# Chemistry

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, liquids, solids, and solutions; periodicity of the properties of elements; chemical bonding; intermolecular forces; equilibrium; kinetics, thermodynamics; acid-base reactions; electrochemistry, coordination chemistry, and nuclear chemistry.

*Prerequisite or Corequisite: MATH-SHU 121 or MATH-SHU 201.*

*This course satisfies: Chemistry, Biology, Neural Science, Physics Majors: Foundations of Science I.*

CHEM-SHU 126

## **Foundations of Chemistry II**

*This is a continuation of the course Foundations of Chemistry I.*

*Prerequisite: CCSC-SHU 104 or CHEM-SHU 125.*

*This course satisfies: Chemistry, Biology, Neural Science, Physics Majors: Foundations of Science II.*

CHEM-SHU 127

## **FoS Chemistry Laboratory**

*This course satisfies: Chemistry, Biology, Neural Science, Physics Majors: Foundations of Science II.*

CHEM-SHU 225 (formerly 201)

## **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.

*Prerequisite: CCSC-SHU 109 or CHEM-SHU 126.*

*This course satisfies: Chemistry Major: Additional Required Courses.*

CHEM-SHU 225

## **Organic Chemistry Lab**

*This course satisfies: Chemistry Major: Additional Required Courses.*

CHEM-SHU 226 (formerly 250)

## **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 should be able to reproduce reaction mechanisms and relate those to compounds and reactions they have not encountered. Students should be able to predict the major product of simple reactions on organic compounds containing only one functional group and apply those same principles to more complex compounds containing multiple functional groups. Students should be able to design simple organic syntheses. Students should be able to read and comprehend articles from the current literature.

*Prerequisite: CHEM-SHU 201(225).*

*This course satisfies: Chemistry Major: Additional Required Courses.*

CHEM-SHU 285

## **Experimental Biochemistry**

Introduction to molecular analysis of biomolecules. Selected experiments and instruction in analytical techniques used in biochemical research, including chromatography, spectrophotometry, and electrophoresis; isolation and characterization of selected biomolecules; kinetic analysis of enzymatic activity; and analysis of protein-protein and protein-DNA interactions that direct basic biochemical pathways.

*Prerequisite: CHEM-SHU 282(882).*

*This course satisfies: Chemistry Major: Chemistry Electives.*

CHEM- SHU 310

## **Biophysical Chemistry**

Applications of physical and chemical principles to topics of biochemical and biological interest with an emphasis on the basic principles underlying biophysical techniques that are used to

study important macromolecules such as proteins and nucleic acids. Topics include molecular spectroscopic techniques such as light absorption, fluorescence, and circular dichroism, as well as nuclear magnetic resonance and vibrational spectroscopy. Applications of these methods to important biophysical, biochemical, and biological problems of current interest such as protein folding, imaging, and protein-DNA and protein-protein interactions are discussed.

*Prerequisites: CHEM-SHU 251, 282(882), and 301(651).*

**CHEM-SHU 312  
Organic Analysis**

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Emphasizes the application of spectroscopic methods in organic chemistry in determining molecular structure, including proton and carbon NMR, infrared spectroscopy, ultraviolet-visible spectroscopy, modern methods of mass spectroscopy, and chiroptical spectroscopy. This course is particularly suitable for chemists interested in pharmaceutical fields of research and development, and applications to studies of the chemistry, properties and interactions of biologically important molecules.

*Prerequisite: CHEM-SHU 251.*

*This course satisfies: Chemistry Major: Chemistry Electives.*

**CHEM-SHU 651 (formerly 301)**

**Physical Chemistry: Quantum Mechanics and Spectroscopy**

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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.

*Prerequisites: CCSC-SHU 114 and MATH-SHU 124.*

*This course satisfies: Chemistry Major: Additional Required Courses.*

**CHEM-SHU 652 (formerly 302)**

**Physical Chemistry: Thermodynamics and Kinetics**

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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.

*Prerequisites: (CCSC-SHU 114 or PHYS-SHU 95) and MATH-SHU 124(112).*

*This course satisfies: Chemistry Major: Additional Required Courses.*

**CHEM-SHU 661 (formerly 350)**

**Physical Chemistry Laboratory**

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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.

*Prerequisites: CHEM-SHU 301(651) and CHEM-SHU 302(652).*

*This course satisfies: Chemistry Major: Additional Required Courses.*

**CHEM-SHU 711 (formerly 410)**

**Inorganic Chemistry**

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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.

*Prerequisites: CHEM-SHU 201(225), 301(651) and 302(652).*

*This course satisfies: Chemistry Major: Additional Required Courses.*

**CHEM-SHU 881 (formerly 281)**

**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.

*Prerequisite: CHEM-SHU 201(225).*

*This course satisfies: Chemistry Major: Chemistry Electives.*

Building on the lessons of Biochemistry 1, Biochemistry 2 emphasizes analysis of basic metabolic pathways, including glycolysis, electron transport, and oxidative phosphorylation, as well as mechanisms of metabolic regulation and integration.

*Prerequisite: CHEM-SHU 281(881).*

*This course satisfies: Chemistry Major: Chemistry Electives.*

*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 chemistry 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 Chemistry. 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 chemistry 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.

*Prerequisites: Independent Study (CHEM-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 faculty sponsor and the Dean of Arts & Sciences. Open to Chemistry majors only. The faculty mentor must be selected in consultation with the Dean of Arts & Sciences. May not be used for the major in chemistry. Offered in the fall, spring, and summer. 2 points.*

For chemistry majors who have completed at least one semester of laboratory research (CHEM-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.)

## 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: CHIN-SHU 101S Elementary Chinese I - FoS1.*

## 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-SHU 101.*

## CHIN-SHU 102S Elementary Chinese II FoS 1

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-SHU 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: Elementary Chinese II FoS 1.*

## 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-SHU 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-SHU 102 or 102A; Corequisite: 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-SHU 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-SHU 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 (7) to continue being acquainted with aspects of Chinese culture and society related to the course materials.

*Prerequisite: CHIN-SHU 201.*

CHIN-SHU 202A

### **Intermediate Chinese II - Accelerated**

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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 (7) to continue being acquainted with aspects of Chinese culture and society related to the course materials.

*Co-requisite: CHIN-SHU 201A.*

CHIN-SHU 211

### **Intermediate Chinese I for Advanced Beginners**

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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-SHU 111.*

*This course satisfies: Language Requirement.*

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-SHU 202.*

*This course satisfies: Language Requirement.*

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-SHU 301.*

*This course satisfies: Language Requirement.*

**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-SHU 302.*

*This course satisfies: Language Requirement.*

**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-SHU 401.*

*This course satisfies: Language Requirement.*

**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-SHU 302.*

*This course satisfies: Language Requirement.*

**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-SHU 302.*

*This course satisfies: Language Requirement.*

**CHIN-SHU 411****Introduction to Business Chinese and Culture (I)**

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-SHU 302.*

*This course satisfies: Global China Studies major: Required Courses. (Non-native Chinese speakers).*

#### CHIN-SHU 415

#### **Introduction to Contemporary China I**

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 opponents 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-SHU 302.*

*This course satisfies: Global China Studies major: Required Courses. (Non-native Chinese speakers).*

#### CHIN-SHU 429

#### **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.  
*Instructor consent required.*

*This course satisfies: Global China Studies major: Required Courses. (Non-native Chinese speakers).*

CHIN-SHU 9000

**Introduction to Conversational Chinese**

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This two-credit language course 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 a) do not need to complete Elementary I for their major, or have already completed the language requirement for their major; b) and/ or students who have been to two other global sites Students cannot take this class if they have already; c) Passed Elementary Chinese I or the equivalent or higher; d) Are a native Chinese speaker. (Open to Study Away Students)

CHIN-SHU 9001

**Practical Chinese and Introduction to China**

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This course does not cover Elementary Chinese I. It is designed for students who have already completed their language requirement for their major or who will complete their language requirement with another language. Students cannot take this class if they have already completed Elementary Chinese I or equivalent or more advanced course. This course is not intended for native Chinese speakers. Finally, completion of this course does not qualify students to take Elementary Chinese II. (Open to Study Away Students)

# Computer Engineering

## 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 or placement test or Interaction Lab.*

*This course satisfies: Core Curriculum: Algorithmic Thinking; Major: CS Electives, CE Required, EE Required.*

## 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.*

*Prerequisite: Intro to Programming or Intro to Computer Science.*

*This course satisfies: Major: CS Required, Data Science Concentration in CS, CE Required.*

## 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-SHU 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-SHU 101 & CSCI-SHU 370.*

*This course satisfies: Major: CE Electives.*

## 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-SHU 202.*

*This course satisfies: Major: CS Electives, CE Electives.*

**CENG-SHU 304**  
**Computer Security**

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*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-SHU 215 and CENG-SHU 350.*

*This course satisfies: Major: CS Electives, CE Electives.*

**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-SHU 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: CSCI-SHU 11 or CSCI-SHU 101 AND CENG-SHU 202 or CENG-SHU 201.*

*This course satisfies: Major: CE Required, EE Additional Electives.*

**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-SHU 101.*

*This course satisfies: Major: CE Electives.*

**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-SHU 400*

# Computer Science

## CSCI-SHU 11

### Introduction to Computer Programming

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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: None.*

*This course satisfies: Core Curriculum: Algorithmic Thinking.*

## CSCI-SHU 101

### Introduction to Computer Science

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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: Introduction to Computer Programming or placement exam.*

*Equivalency: This course counts for CSCI-UA 101.*

*This course satisfies: Core Curriculum: Algorithmic Thinking; Major: NS Electives, CS Required, Data Science Required, CE Required, EE Required.*

## CSCI-SHU 210

### Data Structures

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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: Introduction to Computer Science or Instructor's consent.*

*Equivalency: This course counts for CSCI-UA 102 Data Structures (NY).*

*This course satisfies: Core Curriculum: Algorithmic Thinking; Major: CS Required, Data Science Required, CE Required.*

## CSCI-SHU 215

### Operating Systems

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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.*

*This course satisfies: Major: CS Required, Data Science Concentration in Computer Science, CE Required.*

## CSCI-2 SHU 220

### Algorithms

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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-SHU 251 & CSCI-SHU 210.*

*This course satisfies: Major: NS Electives, CS Required, Data Science Concentration in Computer Science.*

## CSCI-SHU 222

### Introduction to Game Programming

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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 Introduction to Computer Science with Instructor Permission.*

*This course satisfies: Major: CS Electives.*

## CSCI-SHU 235

### Information Visualization

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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.

*This course satisfies: Major: CS Electives, Data Science Data Analysis Required.*

CSCI-302

### **Introduction to Database Systems**

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CSCI-SHU 304

### **Network Security**

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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-SHU 215.*

*This course satisfies: Major: CS Electives, CE Electives.*

CSCI-SHU 308

### **Computer Networking**

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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-SHU 11 or placement test.*

*This course satisfies: Major: CS Electives, EE Additional Electives.*

CSCI-SHU 310

### **UNIX System Programming**

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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-SHU 215 and 220.*

*This course satisfies: Major: CS Electives, CE Electives.*

CSCI-SHU 323

### **Interactive Computer Graphics**

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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-SHU 101, MATH-SHU 110 & MATH-SHU 230.*

*This course satisfies: Major: CS Electives.*

CSCI-SHU 330

### **Computer Vision and Scene Analysis**

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*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-SHU 101; MATH-SHU 121.*

*This course satisfies: Major: CS Electives.*

**CSCI-SHU 331**  
**Computer Architecture**

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*(Cross-listed with CENG-SHU 202)*

**CSCI-SHU 340**  
**Introduction to Databases**

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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-SHU 101.*

*This course satisfies: Major: CS Electives, Data Science Data Management Required, CE Electives.*

**CSCI-SHU 358**  
**Theory of Computation**

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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-SHU 215 and 220.*

*This course satisfies: Major: NS Electives, CS Electives.*

**CSCI-360**  
**Machine Learning and Data Mining**

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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-SHU 101 OR CSCI-SHU 11 OR placement test; MATH-SHU 121 OR MATH-SHU 201 or placement test; Prerequisite or Corequisite: MATH-SHU 150 or MATH-SHU 233 or BUSF-SHU 101.*

*This course satisfies: Major: NS Electives, CS Electives, Data Science Data Analysis Required.*

**CSCI-SHU 370**  
**Object-Oriented Programming**

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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-SHU 210.*

**CSCI-SHU 372**  
**Artificial Intelligence**

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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-SHU 215 and 220.*

*This course satisfies: Major: NS Electives, CS Electives, Data Science Concentration in Artificial Intelligence.*

**CSCI-SHU 378**  
**Introduction to Cryptography**

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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-SHU 220.*

*This course satisfies: Major: CS Electives.*

**CSCI-SHU 402**  
**Advanced Algorithms**

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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-SHU 220.*

*This course satisfies: Major NS Electives, CS Electives.*

**CSCI-SHU 410**

### **Software Engineering**

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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-SHU 215 and 220.*

*This course satisfies: Major: CS Electives.*

**CSCI-420**

### **Senior Project**

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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.

*This course satisfies: Major: CS Required.*

**CSCI-SHU 997**

### **Independent Study**

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*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.*

*This course satisfies: Major: Honors MATH Mathematics Electives, MATH Mathematics Electives, CS Required, Data Science Concentration in Computer Science, CE Required.*

## CCCF-SHU 101W1

### Perspectives on Humanities: Beyond Nature

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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

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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 101W6

### Perspectives on the Humanities: Embodied Language

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This course examines alternative experiences with language that go beyond sound and image. What does language taste like? How does language feel on the skin? What kinds of magical powers can we imagine language to have? Our examination of these extraordinary experiences will enable us to consider how identity, community, and social expectations are shaped through performances of and engagements with language. We will develop a critical vocabulary to discuss the ways in which language intersects with gender, culture, religion, and other relations of power. Course texts will include works of poetry, film, adult and young adult fiction, as well as critical essays. 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 comprised of analytical essays.

## CCCF-SHU 101W7

### Perspectives on the Humanities: Language, Identity, and World Englishes

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In this post-colonial, post-modern, globalized world, unitary views of the English language begin to break down. On closer examination, it is becoming apparent that through contact with other languages and cultures English has transformed into a variety of World Englishes (B. Kachru & Y. Kachru). This section of Perspectives on the Humanities focuses on issues of language and identity as they present themselves in a variety of Englishes. Language, Identity, and World Englishes begins by providing students with “linguistics for non-linguists” introduction to language and its various parts (i.e., morphology, phonology, syntax, semantics, and pragmatics) so that we can begin to explore the variety that exists in our linguistic worlds. Once this foundation is set, this course will begin to explore the state of English not as a unitary language owned by the so-called native speaker, but rather as a pluralistic entity that has adapted to the needs of speakers from a variety of linguistic and cultural contexts. Finally, this course will conclude by exploring the intersections of language and identity from a World Englishes perspective. This will be done by examining two works from the genre of contact literatures—one from the Chinese context and one from the Sri Lankan context—to investigate how different varieties of World Englishes are deployed to construct new, hybrid identities.

## CCCF-SHU 101W8

### Perspectives on the Humanities: Sino-Western Literary Exchanges

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China has been a subject of fascination in the West for thousands of years, but especially since the sixteenth century when Western missionaries and travellers first tried to seriously understand

the country for themselves. Something similar can be said of the West in China, especially around the turn of the twentieth century, when China found itself mired in a grave sociopolitical crisis after a series of failed confrontations with Western Europe (and Japan). This course will provide intriguing illustrations, in the realm of literature, of this complementary though not always equal fascination between China and the West. Specifically, we will explore notable cases of cultural construction and literary representation of the other, such as Voltaire's rewriting of Chinese drama, Ezra Pound's translations and poetic experiments as inspired by his peculiar understanding of the Chinese language, literature, history, and culture, accommodation and appropriation of Western literary themes and methods in early-twentieth-century China. Special emphasis will be placed on the transformation of exemplary texts when they are transplanted into a cultural milieu radically different from their culture of origin. Theoretically, the course will invite thinking not only about the benefits and problems of cross-cultural literary exchange but also about questions, such as language, perception, national and cultural identity, that are of direct relevance to our experience at NYU Shanghai. Apart from covering the named subject, this course will also help extend the writing skills and concepts learned in your 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 101W10

#### **Perspectives on the Humanities: Expatriate Immigrant, Refugee**

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Expatriate, immigrant, or refugee: how and by whom are such labels determined? As modern borders blur and concepts of "world citizenship" emerge, how do the circumstances of one's emigration continue to be the determining factor of one's social status and cultural cache upon arrival to a new country? In what ways does the adoption or imposition of such labels affect the personal, communal, and economic lives of the traveller? How do historical relationships between nations determine the way its citizens are viewed when travelling abroad? When and how does "travel" become "flight" or "exile"? How is criminality portrayed and punished according to emigrant status? How do communities of emigrants (expatriate communities, immigrant communities, and refugee communities) interact with each other in-flight, upon arrival, and once settled in their shared adopted homeland? Where do these communities intersect and diverge, and how are moments of intersection and divergence internally processed and externally performed? In this course, students will explore the questions above through close engagement with a plethora of critical and creative texts. Students will interpret the representation of expatriates, immigrants, and refugees in literature, film, and mass media through a critical lens, drawing from post-colonialist thought, literary theory, and historical documentation. This course will extend writing skills and concepts learned in GPS Writing Workshop, focusing on critical theory, research, academic writing and expression in the Humanities. The primary assignments will be: 1 analytical essay, in which students critically compare emigrant representations across 2-3 texts/films; 1 digital expressions project, in which students in groups produce their own representations of emigrant communities in China; and 1 research essay, in which students evaluate the cogency of 1-2 texts/films using external sources.

CCCF-SHU 101W11

#### **Perspectives on the Humanities: American Superheros**

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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 101W12

#### **Perspectives on the Humanities: "Innocents Abroad": Youth, National Identity, & the Travel Narrative**

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In 1867, Ralph Waldo Emerson declared that "We go to Europe to be Americanized." Emerson was referring to the tendency for young wealthy Americans to study abroad in order to finish their education and become cultivated individuals who were prepared to contribute to American society. His observation, though, suggests that travel enables us to learn more about ourselves, particularly our national identity. In this Perspectives on Humanities course, we will explore how travel can serve as a lens for understanding national identity and how it works in the twenty-first century, particularly for young people. We will study both traditional travel narratives, where the protagonist strengthens her national identity through her travels, as well as more contemporary travel narratives that encourage young people to adopt a cosmopolitan perspective. The course will also focus on a range of national literatures, but will place a special emphasis on American and Chinese texts as a way of considering our own unique position in a Sino-American educational institution. Possible texts include Mark Twain's *The Innocents Abroad*, Bing Xin's *Letters from a Chinese Student at Wellesley*, Gene Luen Yang's *American Born Chinese*, and Yung

Wing's My Life in China and America.

CCCF-SHU 101W13

#### **Perspectives on the Humanities: Public Moralists from Socrates to Chomsky**

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What function do social critics serve in challenging the intellectual status quo, or advocating for social reform, or goading the public to question deeply held beliefs? And how have art, literature, and philosophy worked to shape the rhetoric of dissent that animates their message? One way to approach these questions is by studying the rich and multifaceted tradition of social criticism in Western intellectual history. This class will be divided into four historical periods, each centered on a major question or prominent theme reflected in the social criticism of the time. We will begin with the question of virtuous living, as reflected in the tradition of wisdom literature, a question that returns in various ways throughout each period. Then we will examine alienation and the spirit of revolution during the Enlightenment. For the Victorian sages, coming to terms with the loss of religious belief and disillusionment with conventional mores was a central preoccupation, as was the social status of women. Finally, we will look at modernism and the various critiques of mass man and life in a surveillance culture. Texts may include Plato, Confucius, Rousseau, Marx, Mill, Dickens, Nietzsche, Freud, Duchamp, and Chomsky, among others.

CCCF-SHU 101W14

#### **Perspectives on the Humanities: Diasporas, Minorities, and Human Rights**

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Transnational mobility, whether in the form of voluntary transition or enforced movement, has come to define our contemporary world as well as reshape West-East and North-South divides. This course will examine a series of phenomena we associate with migration and mobility, including diaspora, human rights, and culture clashes. The writing-intensive course will provide guidelines for understanding contemporary geopolitical landscapes shaped by migrants and minorities through an examination of their cultural productions written in various genres. Close textual and visual readings will be accompanied by discussions of current debates on citizenship, integration, nationalism and multiculturalism as articulated in Europe, Asia and the Americas. Analytic insights will be derived from cultural studies, postcolonial studies, studies of migration, race, and gender, and critical ethnic studies. The course will examine case studies of exiled Jews in the diaspora (Hannah Arendt, Stefan Zweig), intellectuals and activists who have discussed race, displacement and civil rights movements (W. E. B. Du Bois, Jane Nardal, Angela Davis, Yuri Kochiyama), guestworker and migrant literature from Europe, contemporary literature of displacement (Yiyun Li), and cultural theorists (Arjun Appadurai, Homi Bhabha, Avtar Brah, Rey Chow, Robin D. Kelley).

CCCF-SHU 101W15

#### **Perspectives on the Humanities: Journeys and Encounters**

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How do we know what we know about other cultures? Where do the images and ideas we have of people different from us come from? Prompted by such questions, this course looks at the difficulties in seeing and representing other cultures objectively, as well as at the origins and effects of stereotyping. We do this work by closely analyzing films, plays, prose and travelogues that share a narrative theme of journeying into foreign territories and depicting cultural encounters. Some of these encounters take place in colonial or diplomatic situations, for example in The Middle East in the film Lawrence of Arabia, in China in David Henry Hwang's play *M. Butterfly* and in Africa in Wole Soyinka's play *Death and the King's Horseman*. Informed by Edward Said's influential theory on orientalism, as well as by postcolonial, cultural and gender studies, we set out to consider how power imbalances and preconceived notions about others might influence such encounters. We'll develop a critical vocabulary and a set of analytical tools to examine and express ideas of cultural, ethnic and gender identity as represented in different genres. The primary assignments will be two analytical essays and a digital expressions project on images of China and Shanghai, which gives students an opportunity to analyze the prevalent media images of their current hometown.

CCCF-SHU 101W16

#### **Perspectives on the Humanities: Brutes, Monsters, Ghosts, and Other Troubling Creatures**

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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.

**Perspectives on the Humanities: Go West!**

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Name 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.

**Perspectives on the Humanities: Mutant Futures - Cultural Transformations and (Re)conceptualizations of Time**

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In this course we will engage with questions arising from a close consideration of time and how different cultures in different eras have encoded different conceptualizations of time in art, literature, philosophy, and everyday artifacts. We'll begin with evidence from archeology and anthropology to seek an understanding of how "primitive" peoples have conceptualized time within non-human natural patterns of seasonal migrations, ecological cycles, and pre-scientific observation, and we will, ultimately, end with conceptualizations of possible futures that arise from contemporary speculative fiction, emergent technologies, and cutting-edge theories that raise crucial questions in terms of the anthropocene, artificial intelligence, climate change, the post-human and other current working predictive and speculative models. We'll consider cyclical and circular models of time, linear and progressive models, and apocalyptic and utopian belief systems, and we'll do so by reading great works of literature, exploring sacred texts from major civilizations, looking at exemplary works of art (including films), and studying a set of philosophical, literary-critical, and scientific texts that will provide us with theoretical frameworks within which to deepen our understanding and analysis of works of cultural significance. We will end the course using what we learn from studying past and present conceptualizations of time to consider vital questions concerning the future, both the future of humankind and of non-human nature and technology.

**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 (refracted through national and cultural lenses), giving voice to the underrepresented, establishing (or challenging) authoritative narratives of the past, 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 or to separate fact from myth. 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 GPS Writing Workshop; this course will emphasize close reading of visual and narrative texts; the analysis of these documents through a theoretical lens; and developing an inquiry through research. We will take as our case studies several examples of traumatic moments in world history (both recent and not-so-recent); the texts which re-present these events may include painful content. Possible selections include Iris Chang's *The Rape of Nanking*; Tim O'Brien's *The Things They Carried*; Ai Weiwei's *So Sorry*; Spike Lee's *When the Levees Broke*; Leni Riefenstahl's *Triumph of the Will*; Quentin Tarantino's *Inglourious Basterds*.

# Core Curriculum

SCIENCE COURSES

## CCSC-SHU 100

### **Mathematics for the Sciences (2 credits)**

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This course is designed for students who would like to develop a better grounding of the specific mathematical methods used in the basic natural science courses, mainly in physics and chemistry. It is intended for students who would like to strengthen their mathematical skills so that they can better focus on the principles of the basic sciences. The course will review, as well as teach, how the concepts of algebra, trigonometry, vectors, calculus, differential equations, statistics as they are used in the sciences using specific examples from physics, chemistry, and applications in studies of classical mechanics, quantum mechanics, thermodynamics, electrostatics, theory of atoms and molecules, etc.

*Pre-requisite: Basic high school mathematics.*

## CCSC-SHU 130

### **Introduction to Computer Programming with Mathematica (2 credits)**

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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, and a wide range of other fields. It is designed for symbolic as well as numerical calculations, and for visualization of technical information.

The course will include the following topics: A brief introduction to computer science, Mathematica as a sophisticated symbolic and numeric calculator; programming in Mathematica and the concepts behind the language. Procedural, functional and rule based programming, parallel computing using multiple cores, dynamic interfaces (animation), image, audio and video processing. Students will solve interesting problems taken from various fields, including algebra, calculus, statistics, optimization, data analysis, science, engineering, economics and finance, and will complete a project which they will choose from within their own areas of interest.

*Pre-requisite: Calculus or Honor Calculus.*

## CCSC-SHU 135

### **Topics in Modern Medicine for Non-Science Majors (2 credits)**

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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.*

*This course satisfies: Core Curriculum: Science, Technolohy, and Society.*

## CCSC-SHU 155

### **Biology and Biotechnology: Essential, Commercial Aspects, Ethical Considerations (2 credits)**

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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.*

*This course satisfies: Core Curriculum: Science, Technolohy, and Society.*

# Core Curriculum

## EXPERIMENTAL DISCOVERY IN THE NATURAL WORLD

CCEX-SHU 111

### The Domain of Crystals

Knowing the three-dimensional structure of a molecule is important for understanding its functional properties. Is it indeed possible to visually analyze a molecule and use the observed experimental data to build a three-dimensional model? This structural information can be obtained using a variety of analytical techniques such as X-ray crystallography, and can lead to significant breakthroughs in pharmaceutics. Students grow crystals of different colors, shapes, and sizes and harvest them for physical and morphological characterization in order to understand the basic principles of atomic structure and theory, chemical bonding and reactions, thermochemistry, periodicity, and solution chemistry.

*Prerequisite: None.*

CCEX-SHU 112

### Mutations and Disease

The very word "mutations" tends to raise fear and apprehension since it is so often associated with physical deformities or exposure to harmful agents, including radiation. Perhaps such fear is warranted since many human diseases, including cystic fibrosis and cancer, are caused by "mutations", which are mere changes in the genetic information in DNA. Starting with basic concepts, this course explores important cellular macromolecules, such as DNA, and proteins as well as their three-dimensional structures that endow them with their specific functions. In fact, understanding how mutations induce alterations to macromolecular structures often sheds light on the characteristic symptoms and prognoses of some human diseases and syndromes. Laboratory projects, which focus on introduction to computer modeling, emphasize visualizing in a three-dimensional environment the normal and altered macromolecules associated with some common but complex human maladies.

*Prerequisite: None.*

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 114

### The Molecules of Life

Our lives are increasingly influenced by the availability of new pharmaceuticals, ranging from drugs that lower cholesterol to those that influence behavior. We examine the chemistry and biology of biomolecules that make up the molecular machinery of the cell. Critical to the function of such biomolecules is their three-dimensional structure that endows them with a specific function. This information provides the scientific basis for understanding drug action and how new drugs are designed. Beginning with the principles of chemical bonding, molecular structure, and acid-base properties that govern the structure and function of biomolecules, we apply these principles to study the varieties of protein architecture and how proteins serve as enzymes to facilitate biochemical reactions. We conclude with a study of molecular genetics and how recent information from the Human Genome Project is stimulating new approaches to diagnosing disease and designing drug treatments.

*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 fieldbased 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.*

**The Legacy of Tradition I: The Growth of Science in the West**

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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.*

**The Legacy of Tradition II: Science and Technology in Pre-Modern China**

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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.*

# Core Curriculum

## SCIENCE, TECHNOLOGY AND SOCIETY

CCST-SHU 121

### The Atom and Energy

$E=mc^2$ : One simple equation encapsulates the power to grant life and death in equal measure. Life associated with fusion in the sun, radiation therapy, and nuclear energy; death via nuclear bombs and nuclear disasters. This course uses nuclear physics as a prism for exploring science as a human endeavor, focusing on the physics of the atomic nucleus and its technological applications. Arguments for and against nuclear power plants are analyzed, while the power and threat of nuclear weapons are assessed. The international treaties designed to limit the spread of nuclear weapons are scrutinized, emphasizing the challenges that lawmakers and citizens face in determining and guiding the uses of nuclear power as we grapple with the moral responsibility that all of us—scientists, politicians, and citizens—must bear for ourselves, our nations, and ultimately, for humanity.

*Prerequisite: None.*

CCST-SHU 122

### Life in the Universe

Why is Earth the only object in the solar system with obvious signs of life? How did the building blocks of life form on Earth? What is the likelihood that there are other forms of life out there? This course addresses these questions and more, by covering the chemical evolution of the Universe, the formation of our solar system, the search for and study of extra-solar planets, and the possible cosmological implications of life's existence.

*Prerequisite: None.*

CCST-SHU 123

### State and Fate of the Earth

What is the current state of Earth in terms of human well-being and human impact on Earth's natural systems? Issues such as energy,  $CO_2$ , climate, agriculture, water, and material fluxes are intricately tied together as a global system that has expanded by about 3% per year. This growth rate will lead to a world in 2050 in which the average world citizen will have a life approximately equal to that of the average European or Japanese today. Will this be possible and what will be the implications for the issues above? In this inquiry-based seminar, substantial portions of the course will require students to conduct research by locating, using, and sharing technical papers and data bases, synthesizing facts and viewpoints, making presentations, and writing short technical papers that will be peer-reviewed by the other "researchers" in the class. The course includes field trips relevant to the topics above.

*Prerequisite: None.*

CCST-SHU 124

### Social Issues in the New Biosciences

While the 20th century has often been characterized as the Century of Physics, many have already named the 21st century as the Century of Genetics. Important markers highlight the speed and drama of the molecular genetic revolution. These include the technique of somatic nuclear cell transfer (with the realization of mammalian cloning and the specter of human cloning) and germ-line gene therapy (with its specter of altering the genetic makeup of future generations). Alongside these markers is the promise of stem cell cures for many human ailments and diseases, and DNA identification technology to exonerate the innocent and convict the guilty. But this is only the beginning, since the newest developments promise to go far beyond "cure" to delve into human "enhancements" of mental acuity and physical prowess. This course examines these and other developments, lodging the heated debates that each generates in both social and cultural histories and current incarnations.

*Prerequisite: None.*

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.*

**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.*

**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.*

**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.*

**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 interdependences 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.*

CCST-SHU 130  
**Animals, Nature, Environment**

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This course will explore urgent issues concerning the relation of human civilization to the natural environment in which it is embedded. There are three main components: The first investigates the human relationship with animals, starting from what are the differences between us and animals, and what these differences mean today. Second, we explore broader issues of "nature": how we humans have conceived of ourselves as distinct from, or even superior to Nature; or, alternatively, enslaved to our inner nature. Third, we study global environmental issues, including how environmentalism emerged in the industrial era, what is its place in today's world, and what the prospects are for finding solutions to the most urgent global problems.

*Prerequisite: None.*

CCST-SHU 131  
**Introduction to the Use of Scientific Data in Historical Research**

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Scientific data potentially useful for the study of the past are today available in unprecedented quantity to historians and archaeologists. The scientific contributions most useful to the study of human activity and historical events involve genetics, palynology (the study of sediments), isotopic analysis (the study of chemical compounds in plants, soil, and human remains), and the reconstruction of ancient climates, based on the study of tree rings (dendrology), ice cores, and stalagmites. The availability of high resolution data makes it possible to gain a better understanding of the environmental and climatic conditions in which human events took place. Moreover, genetic data may be useful to trace migrations and demographic movements. Finally, the reconstruction of ancient diets can provide valuable information on the economic activities of ancient societies. The course will provide a broad-gauged introduction to the historical application of a variety of scientific data, with a special focus on Chinese and Central Asian history.

*Prerequisite: None.*

# Core Curriculum

## SOCIAL FOUNDATIONS

CCSF-SHU 101L

### Global Perspectives on Society

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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: None.*

*This course satisfies: Core Curriculum: Social Foundations.*

# Economics

## ECON-SHU 1 **Principles of 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.

*This course satisfies: Major: ECON Prereq; Social Science Foundational.*

## 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.*

*This course satisfies: Major: BUSF Prereq, BUSM Prereq, ECON Prereq, Social Science Foundational.*

## 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.

*This course satisfies: Major: Data Science Math Required, ECON Electives.*

## 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 Economics.*

*This course satisfies: Major: ECON Required.*

## 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-SHU 121.*

*This course satisfies: Major: Data Science Math Required, ECON Advanced Economics, Social Science Methods.*

## ECON-SHU 202 **Intermediate Macroeconomics**

*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-SHU 150 & 201.*

*This course satisfies: Major: Data Science Concentration in Economics, ECON Required, Social Science Focus.*

## 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-SHU 150.*

*This course satisfies: Major: Social Science Focus.*

**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-SHU 150.*

*This course satisfies: Major: Social Science Focus.*

**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-SHU 150.*

*This course satisfies: Major: ECON Electives, Social Science Focus.*

**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-SHU 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-SHU 150.*

*This course satisfies: Major: Social Science Focus.*

**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-SHU 202.*

*This course satisfies: Major: BUSF Non-Finance Electives or China Business Studies, BUSM Non-Marketing Electives or China Business Studies, Social Science Focus.*

**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. 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.*

*This course satisfies: Major: Social Science Methods.*

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 Microeconomics AND (Math for Econ 1 OR Multivariate Calculus).*

*This course satisfies: Major: ECON Advanced Economics, Social Science Methods.*

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 analysis 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.

*This course satisfies: Core Curriculum: SSPC; Major: ECON Electives.*

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.

*Prerequisite: ECON-SHU 150.*

*This course satisfies: Major: Business Core Course, Social Science Foundational.*

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-SHU 150.*

*This course satisfies: Major: Social Science Focus.*

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.

*Prerequisite: Introductory Microeconomics.*

*This course satisfies: Major: ECON Electives.*

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-SHU 233 OR MATH-SHU 150 OR BUSF-SHU 101.*

*This course satisfies: Major: Data Science Data Analysis, ECON Required Economics, Social Science Methods.*

#### **ECON-SHU 316**

#### **Industrial Organization**

How firms behave in imperfectly-competitive markets. Uses game theory to understand strategic decisions. Topics include price discrimination; peak load pricing; productivity; Bertrand, Cournot, and Hotelling oligopoly models; entry; mergers and merger regulation; monopoly regulation; patents; auctions; and two-sided platforms. Moves from theoretical and mathematical models to real-world data and problem sets.

*Prerequisite: ECON-SHU 10.*

*This course satisfies: Major: ECON Electives.*

#### **ECON-SHU 342**

#### **Behavioral Economics**

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.*

*This course satisfies: Major: ECON Electives.*

#### **ECON-SHU 353**

#### **Public Economics**

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.

*Prerequisite: ECON-SHU 10.*

*This course satisfies: Major: ECON Electives, Social Science Focus.*

#### **ECON-SHU 360**

#### **Experimental Economics**

Predicated on the belief that economics, like other sciences, can be a laboratory science where economic theories are tested, rejected, and revised. Reviews the methodology of such laboratory experiments and investigates the use of experiments in a wide variety of fields. These include competitive markets, auctions, public goods theory, labor economics, game theory, and individual choice theory.

*Prerequisite: ECON-SHU 10.*

*This course satisfies: Major: ECON Electives.*

#### **ECON-SHU 402**

#### **Advanced Econometrics**

Prepares students for carrying out empirical research in economics, emphasizing the relationship between economic models and observable data. Covers nonlinear methods and a selection of topics in panel and time-series data.

*Prerequisite: ECON-SHU 301*

#### **BPEP-SHU 9042 (formerly ECON-SHU 211)**

#### **The Political Economy of East Asia: 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: ECON-SHU 150 and SOCS-SHU 160.*

*This course satisfies: Major: GCS Electives, BUSF Non-Finance Electives or China Business Studies, BUSM Non-Marketing Electives or China Business Studies, Social Science Focus.*

# Electrical Engineering

## 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-SHU 121.*

*This course satisfies: Major: NS Electives, CE Required, EE Required.*

## 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-SHU 251.*

*This course satisfies: Major: EE Additional Electives.*

## 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 propagating 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-SHU 110 or BIOL-SHU 21.*

*This course satisfies: Major: EE Required.*

## 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-SHU 251.*

*This course satisfies: Major: EE Additional Electives.*

## 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-SHU 251.*

*This course satisfies: Major: CE Required, EE Required.*

## 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-SHU 303(2054).*

**EENG-SHU 352**  
**Control Systems**

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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-SHU 124.*

*This course satisfies: Major: NS Electives, EE Electives.*

**EENG-SHU 354**

**Electrical Energy and Power Systems**

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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-SHU 304.*

*This course satisfies: Major: EE Electives.*

**EENG-SHU 355**

**Digital Signal Processing**

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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-SHU 303(2054).*

*This course satisfies: Major: EE Additional Electives.*

**EENG-SHU 356**

**Communication Systems**

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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-SHU 303(2054).*

*This course satisfies: Major: EE Additional Electives.*

**EENG-SHU 375**

**Robotic Systems**

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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-SHU 352.*

*This course satisfies: Major: NS Electives, EE Electives.*

**EENG-SHU 400**

**Senior Capstone Design Project I**

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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.*

**EENG-SHU 401**

**Senior Capstone Design Project II**

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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-SHU 400.*

**EENG-SHU 2054 (formerly 303)**

**Signals and Systems**

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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-SHU 124.*

*This course satisfies: Major: NS Electives, EE Electives.*

**EENG-SHU 3193 (formerly 353)**

**Very Large Scale Integrated (VLSI) Circuit Design**

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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-SHU 322.*

*This course satisfies: Major: CE Electives, EE Electives.*

## ENGL-SHU 100A The Narratives of Science

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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. Specifically, this course 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 the ages. We will debate the relationship of science to art, religion, literature, media, law, and other disciplines, explore shared and distinct academic language, and practice various genres of writing and speaking and communicating that are used by scientists working in distinct fields.

## ENGL-SHU 100B Cities and Urban Consciousness

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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. 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. 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.

## ENGL-SHU 100C Consumerism, Alienation and Happiness

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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. Specifically, this course will explore what some regard as an unprecedented, global crisis humanity now faces, a crisis connected with the influence of consumerism and materialism on modern culture and society. 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 happy future might be.

## ENGL-SHU 100F Business in the 21st Century

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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. Specifically, this course will investigate the role of business organizations in what some call the "post-modern period," or the 21st century. As technology develops and both social and environmental needs evolve, what role does business play in society? What role should it play? What are current business trends in the west? In China? What are current narratives (cultural, historical, personal) about business and how do such narratives shape business practices themselves? In this course, there will be an emphasis on both creative and critical thinking as we ask questions, analyze problems and come up with our own solutions.

**ENGL-SHU 100G**  
**Negotiating Self and Other**

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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. 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 subculture, treatment of minority groups, gender identity, and material and consumer identities.

**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.

**ENGL-SHU 100J**  
**Intercultural Communication**

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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. Part of the mission of NYU-Shanghai is to enable students to 'master the skills of cross-cultural effectiveness.' These are perhaps the most important goals that you can set for yourselves in today's global world where people from disparate cultures must come together to solve the big problems of the age. 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." You will increase your ability to recognize 'intercultural variables' and disparate 'communication styles,' conceptualize and practice intercultural communication and etiquette that is both verbal and non-verbal, and question assumptions you have about communication and culture. You will also be prompted to develop your own set of intercultural values in light of what you have learned.

**WRIT-SHU 159**  
**Introduction to Creative Writing**

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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, heartbreak 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.*

WRIT-SHU 200

**Topics in Creative Writing: Write -> Translate -> Publish**

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In this two-credit creative writing workshop, students will not only write their own short works -- poems, flash fiction, quick one-acts, prose poems, parables and allegories, and other forms of "microliterature" -- but they will also collaborate across languages to translate their work and that of others from English and into Chinese and vice-versa (other languages may come into play: creative work in any student's native or preferred language is admissible). The creative work of writing and translating will be accompanied by short readings in translation theory, by exploring cutting-edge trends in innovative writing both in China and elsewhere, and by reading exemplary works in translation (often side-by-side comparative translations). We will complete the semester's work by curating, designing and producing a bilingual English-Chinese volume of collected work produced by workshop participants. This last phase may involve both print and digital production, depending on how students in collaboration with guest lecturers and the course instructor decide to curate and present the best of the semester's creative writing and translation work.

WRIT-SHU 209

**Forms of the Personal Narrative: Meeting the "I" in the World**

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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 ourselves 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.

# Global China Studies

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.*

*This course satisfies: Core Curriculum: SSPC; Major: GCS required, HUMN Survey.*

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.*

*This course satisfies: Core Curriculum: SSPC; Major: GCS Chinese Geographies, HUMN Survey.*

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 Sino 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.*

*This course satisfies: Core Curriculum: SSPC; Major: GCS Electives, HUMN Topic.*

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.*

*This course satisfies: Major: GCS Electives.*

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 as the Persian Gulf and the east coast of Africa; Qing shipyards; and recent developments.

*Prerequisite: None.*

*This course satisfies: Core Curriculum: SSPC; Major: GCS Electives, HUMN Topic.*

GCHN-SHU 231  
**Social and Cultural Debates in 20th Century China**

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"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?

*Prerequisites: None.*

*This course satisfies: Core Curriculum: SSPC or CA; Major: GCS Electives, HUMN Topic.*

GCHN-SHU 232

**From Qing to the Republic: Social Debates in China**

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"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.)*

*This course satisfies: Core Curriculum: SSPC; Major: GCS Electives, HUMN Topic.*

GCHN-SHU 240

**Modern Chinese Governance**

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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.*

*This course satisfies: Core Curriculum: SSPC; Major: GCS Required, Social Science Focus.*

GCHN-SHU 241

**Chinese Revolutions**

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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.*

*This course satisfies: Major: GCS Electives, Social Science Focus.*

GCHN-SHU 242

**Mao and the Chinese Revolution**

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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.*

*This course satisfies: Major: GCS Electives.*

GCHN-SHU 243  
**Chinese Environmental Studies**

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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.*

*This course satisfies: Core Curriculum: SSPC; Major: GCS Electives, Social Science Focus.*

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.*

*This course satisfies: Core Curriculum: CA; Major: GCS Required.*

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.*

*This course satisfies: Core Curriculum: SSPC; Major: GCS Electives, Social Science Focus.*

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.

*Prerequisite: None.*

*This course satisfies: Core Curriculum: CA; Major: GCS Elective, HUMN Topic.*

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.

*Prerequisite: None.*

*This course satisfies: Core Curriculum: CA; Major: GCS Required, HUMN Topic.*

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 includes 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.*

*This course satisfies: Core Curriculum: SSPC; Major: GCS Required or Elective, Social Science Core New Challenges in Social Science.*

GCHN-290

### **Topics in Global China Studies**

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Specific topics vary from semester to semester.

*Prerequisite: None*

*This course satisfies: Major: GCS Elective.*

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-SHU 150 and SOCS-SHU 160.*

*This course satisfies: Major: GCS Elective, Social Science Focus, Business non-finance/marketing elective or China Business Studies.*

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.

*This course satisfies: Core Curriculum: SSPC or CA; Major: GCS Electives, HUMN Topic.*

CCCF-SHU 110

### **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.

**CCCF-SHU 121****History of Chinese Cinemas**

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. This may be used as a survey course in the Humanities.*

*This course satisfies: Core Curriculum: CA; Major: GCS Electives, HUMN Survey.*

**CCCF-SHU 128****Contemporary Art & New Media**

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.*

*This course satisfies: Core Curriculum: CA; Major: GCS Electives, HUMN Survey.*

**CCCF-SHU 130****Screening Childhood**

Childhood is a persistent topic of countless films and other screen-based media products worldwide, with an intended audience not limited to children. The focus of this course is not children's films per se, but "childhood" in world cinema and in popular culture, discussed from an array of historical and theoretical perspectives. The concerns and topics of the course include: the intimate relationship between early cinema and childhood (and by extension, childhood and modernity); conceptions and representations of childhood in different cinematic (and cultural) traditions and historical periods; ideological critiques and other theoretical models in engaging screen and media portrayals of childhood, including feminism, gender and sexuality studies, postcolonial studies, and child studies. Weekly screenings will feature early actualities, silent narrative film, musical, documentary, animation, and more. Students are expected to actively take part in discussions and presentations, and complete a final research paper.

*Prerequisite: None.*

*This course satisfies: Core Curriculum: CA; Major: HUMN Topic.*

**CCCF-SHU 131****History of Chinese Cinemas II**

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.

*Prerequisite: None. This may be used as a survey course in the Humanities.*

*This course satisfies: Core Curriculum: CA; Major: GCS Electives, HUMN Survey.*

**CCCF-SHU 132****Love and War, Wisdom and Strife: Chinese Poetry in a Global Context**

Love and war, wine and song, exile and return, sex and sensuality, adventure and meditation, yearning, struggle, and the peace that may come with deep wisdom: China's vibrant poetic tradition embodies the human drama and lives on as one of the world's most profound explorations of what it is to live, love, struggle and seek insight--of the human condition itself.

Furthermore, China's history is one of verse, as its poetic traditions give readers both insight into its civilizational story through the voices of its poets -- from soldiers and emperors to proud women and men, from everyday folk and exceptional historical figures to artists and scholars of the highest rank. In short, to come to a real understanding of China--and, especially the aesthetic pleasures of Chinese culture--one must spend time among its poets. This is as true of China in our global age as it is of China's deep history: English-language translations of China's poetry are attempts--profoundly beautiful in their own right--to translate something essential about Chinese identity while also striking universal chords.

*Prerequisite: None.*

*This course satisfies: Core Curriculum: CA.*

CCCF-SHU 133

### **Journalism and Society in China**

This four-credit course examines the role and functions of journalists and the media in Chinese society as modern reporting moves into the digital media landscape. To provide context to the political and cultural environment of news-gathering, the course assesses the development of journalism in China through the 20th century from around the birth of the Republic of China (1911) and through to the modern era. It will examine the relatively free publishing environment for newspapers in the lead-up to establishment of the People's Republic of China (1949) and the imposition of government control thereafter. Through providing an understanding of the parallel publishing environment of institutional traditional media ownership and today's free-enterprise online media corporations, the unit studies how reporters operate in both. Students will gain an understanding of the strong nexus between government and media and the ever-present need for journalists to portray various aspects of Chinese ideology at the same time as functioning as news reporters. The portrayal of media as propagandist will be considered against the abiding devotion of journalists to lift the veils on truth. The roles, functions and rounds of journalism as practiced in China will be studied through class discussion and assignments and these will include reporting across all publishing platforms of politics, business, the environment and national issues. The impact of digital journalism will be an underlying theme through the course. The course structure will involve lectures, workshops, seminars, guest speakers and an industry visit. There will be two 3-hour classes per week. Assignments will include a blend of in-class group and individual presentations and two written papers.

*Prerequisite: None.*

*This course satisfies: Core Curriculum: CA.*

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.*

*This course satisfies: Core Curriculum: SSPC; Major: GCS Electives.*

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.*

*This course satisfies: Core Curriculum: SSPC; Major: GCS Electives; HUMAN Survey.*

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.*

*This course satisfies: Core Curriculum: SSPC; Major: GCS Electives; Social Science Focus.*

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.*

*This course satisfies: Core Curriculum: SSPC; Major: GCS Electives.*

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.

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.*

*This course satisfies: Core Curriculum: SSPC.*

LWSO-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.

*This course satisfies: Core Curriculum: SSPC; Major: GCS Electives; Social Science Focus.*

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.

*This course satisfies: Core Curriculum: SSPC; Major: GCS Electives.*

# Humanities

## HUMN-SHU 225 Topics in Asia-Pacific History Asia-Pasic History in the 20th Century

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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.*

*This course satisfies: Core Curriculum: SSPC; Major: GCS Required, HUMN Topic.*

## HUMN-SHU 226 The Global Economy in the 20th Century

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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.*

*This course satisfies: Major: HUMN Topic.*

## HUMN-SHU 229 Masters of Asian Cinema

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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.

*This course satisfies: Core Curriculum: CA; Major: GCS Electives, HUMN Survey.*

## HUMN-SHU 230-001 Topics in the Humanities: European Modernities and the Global Avant-Garde

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Was there a unified global movement in the twentieth century we can properly call 'modernist'? While modernism has often been considered a primarily European movement with global repercussions, this course seeks to explore constellations of modernisms in European, Latin American, Asian, and African aesthetic and cultural movements of the early twentieth century. From American Orientalist poetry to Bauhaus architecture in Shanghai, the course reads a broad range of artistic, literary, architectural, scientific and cultural artifacts alongside contemporaneous theories of modernity, cosmopolitanism, internationalism and the avant-garde. Central concerns include debates on the artistic relationship between form and function; the experience of the modern city; representations of consciousness, perception, and time; and considerations of the artist's role in society. Authors read include Achebe, Borges, Joyce, Kawabata, Lu Xun, Neruda, Pound, Proust, Tagore, Woolf, Yeats, and others.

*This course satisfies: Major: HUMN Topic.*

HUMN-SHU 240  
**Gender, Sexuality, and Culture**

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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.*

*This course satisfies: Major: HUMN Critical Concept Core Course.*

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.*

*This course satisfies: Major: HUMN Topic.*

HUMN-SHU 267  
**Representing Ethnicity in Mainland 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.*

*This course satisfies: Core Curriculum: CA; Major: GCS Required, HUMN Topic.*

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.*

*This course satisfies: Major: HUMN Topic.*

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.*

*This course satisfies: Core Curriculum: SSPC or CA; Major: GCS Electives, HUMN Topic.*

Students design and conduct an independent research project in their area of focus using the theories and methods with which they have become familiar over the course of completing the major. *Open only to Humanities majors in the senior year. Offered in Spring 2017.*

Students complete an independent research project in their area of focus using the theories and methods with which they have become familiar over the course of completing the major.

*Prerequisite: HUMN-SHU 410, Humanities Capstone Honors Seminar. Offered in Spring 2017.*

This seminar introduces major honors candidates to research methods in the Humanities as preparation for the Honors Independent Study in the spring semester of the senior year. By the end of the course, students will have produced a well-formulated research question, methodological design, and bibliography, and will have identified a faculty supervisor for the spring semester independent study.

*Open only to seniors who have been admitted to honors candidacy in the Humanities. Offered online in Fall 2016.*

Candidates for major honors conduct independent research under the supervision of a faculty member in the Humanities. Open only to seniors who have been admitted to honors candidacy in Humanities.

*Prerequisite: HUMN-SHU 410, Humanities Capstone Honors Seminar. Offered in Spring 2017.*

Students are permitted to work on an individual basis under the supervision of a full-time faculty member in the Humanities discipline if they have maintained an overall GPA of 3.0 and have a study proposal that is approved by a Humanities professor. Students are expected to spend about ten to twelve hours a week on their project for 4 credits.

*Prerequisite: Major Faculty Advisor Permission.*

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.

*Prerequisite: None.*

*This course satisfies: Core Curriculum: SSPC; Major: GCS Electives, HUMN Survey.*

**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.

*This course satisfies: Core Curriculum: SSPC.*

**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.

*This course satisfies: Major: HUMN Survey.*

**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.

*Prerequisite: None.*

*This course satisfies: Core Curriculum: SSPC; Major: GCS Electives, HUMN Survey.*

**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.

*Prerequisite: None.*

*This course satisfies: Core Curriculum: SSPC; Major: GCS Electives.*

**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.

*This course satisfies: Major: HUMN Topic.*

**Witches, Magic and the Witch Hunts in the Atlantic World, 1400-1700**

The study of "witchcraft" and the witchhunts of early modern Europe has brought enormous insight to our historical understanding of popular culture, gender, social conflict, religion, and law. This course examines European ideas about witchcraft in the sixteenth-eighteenth centuries and how the European model of witchcraft became exported to other parts of the Atlantic world (Africa, North America, South America) during the early-modern period of European economic and colonial expansion. In addition, we will explore how non-European concepts of the supernatural, magical, and divine differed from or intersected with European beliefs and assumptions at the moment of cross-cultural encounter.

*This course satisfies: Major: HUMN Topic.*

**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.

*This course satisfies: Core Curriculum: STS; Major: HUMN Topic.*

**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 question 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.

*This course satisfies: Core Curriculum: SSPC; Major: GCS Electives, HUMN Topic.*

**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.

*This course satisfies: Major: HUMN Critical Concept Core Course.*

**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.

*This course satisfies: Major: HUMN Topic.*

**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.

*This course satisfies: Core Curriculum: SSPC; Major: GCS Electives, HUMN Topic.*

**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.

*Prerequisite: None.*

*This course satisfies: Core Curriculum: STS; Major: HUMN Topic.*

**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.

*This course satisfies: Major: HUMN Topic.*

**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.

*This course satisfies: Core Curriculum: SSPC; Major: GCS Electives, HUMN Topic.*

**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.

*This course satisfies: Core Curriculum: SSPC; Major: HUMN Topic.*

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 'scientificism' 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).

*This course satisfies: Major: HUMN Topic.*

HIST-SHU 341

### **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 Reformation 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.

*This course satisfies: Major: HUMN Topic.*

HIST-SHU 345

### **Theorizing and Practicing the European State, 1400-1800**

From 1400-1800, Europe had various institutionalized and structured forms of political authority: city-states, kingdoms, confederacies, corporations, and empires. Furthermore almost all organized corporate bodies (families, guilds, parishes, merchant companies) exerted some degree of formal jurisdiction. This course examines contemporary political theories – including those proposed by Machiavelli, Vitoria, Bossuet, Locke, and Rousseau – that described different ways to organize and justify political authority. It also explores how political theories related to practices of statecraft, including the role of spectacle and ritual at the royal court, assertion of territorial boundaries, shifts in the meaning and practice of law, competition among social classes vying for state power, and the relationship of religion to the state.

*This course satisfies: Major: HUMN Topic.*

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, Kalidasa, 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.

*This course satisfies: Major: HUMN Topic.*

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.

*This course satisfies: Major: HUMN Topic.*

### LIT-SHU 221

#### **Shakespeare II: Comical Tragedies**

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##### **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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*This course satisfies: Major: HUMN Topic.*

### LIT-SHU 222

#### **Chinese Poetry (in Translation)**

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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 of translation.

*This course satisfies: Core Curriculum: CA.*

### LIT-SHU 223

#### **Magic and Realism in Chinese Literature**

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*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 García Márquez 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 authors 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.

*This course satisfies: Core Curriculum: CA.*

LIT-SHU 224

**Hispanic Cities in Translation**

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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.

*Prerequisite: None.*

*This course satisfies: Major: HUMN Topic.*

LIT-SHU 225

**Global Shakespeare**

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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 Shakespeares). 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>. 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.

*This course satisfies: Major: HUMN Topic.*

LIT-SHU 245

**Literature and Science in the Renaissance**

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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*.

*This course satisfies: Core Curriculum: STS; Major: HUMN Topic.*

PHIL-SHU 70 (formerly HUMN-SHU 204)

### **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.*

*This course satisfies Major: HUMN Survey; Only counts for 2 credits of the Algorithmic Thinking category.*

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.*

*This course satisfies: Core Curriculum: STS; Major: HUMN Critical Concept Core Course.*

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 130

### **Philosophy of Technology: Thinking Machines**

This course aims to train students to think philosophically about our rapidly changing—and ever more intimate—relationship with machines. We focus in particular on the following subjects: artificial intelligence, robots, cyborgs, automation and science fiction speculation.

*Prerequisite: Students must have completed one full year of study.*

*This course satisfies: Core Curriculum: STS; Major: HUMN Critical Concept Core Course or Digital Approaches Core Course or Topic, IMA Seminars.*

PHIL-SHU 150 (formerly HUMN- SHU 203)

### **Central Problems in Philosophy**

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.*

*This course satisfies: Major: HUMN Critical Concept Core Course or Survey.*

# Interactive Media Arts

## INTM-SHU 10J Neighborhood, Map, Phone

*In this class, students will work in small groups to explore and annotate the neighborhood around NYU's Shanghai campus. Students will learn how to use basic digital mapping and annotation tools, on both phones and computers, to understand and document the neighborhood. This course satisfies: Core Curriculum: Science, Technology and Society; Major: IMA Computation & Data Electives.*

## INTM-SHU 10I Interaction Lab

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. Required Course.

*Prerequisite: None.*

*This course satisfies: Core Curriculum: Algorithmic Thinking; Major: IMA Required.*

## INTM-SHU 120 Communications Lab

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. Adobe Creative Cloud and other relevant software applications will be examined, and the basics of fundamental web languages HTML, CSS and JavaScript will be studied, 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 will be assigned in each of the core areas of study. Required Course.

*Prerequisite: None.*

*This course satisfies: Major: IMA Required; Core Curriculum: Algorithmic Thinking.*

## INTM-SHU 127 Paper Art: History and Practice

Beginning with the Chinese arts of Zhezhi (paper folding) and Jianzhi (paper cutting) the paper craft movement has roots on all continents. This course reviews the history of both Chinese and international traditions, in addition to examining contemporary practices. Additionally, students will have hands-on experience through weekly exercises in the fundamentals of paper engineering techniques and basic conductive materials, creating movable books and sculptures. *This course satisfies: Core Curriculum: CA; Major: IMA Art & Design Electives.*

## INTM-SHU 150J Mobile Media

A massive new medium has arisen in the last decade. The app, an encapsulation of functionality in the form of software on a mobile device is changing how we, both as individuals and groups communicate with each-other and even how we experience the world. Mobile devices with their always on and always connected nature are ubiquitous in all senses. They offer all of us the ability to access the network, anytime from anywhere. They are changing culture at every level, globally, locally and perhaps even changing what it means to be human. Perhaps in no other country is this change more pronounced than in China. With the largest population of mobile phone users in the world, more than 1.3 billion, the way people use their mobile devices for chat, media consumption, and payments is similar to the rest of the world but with a big difference. Many western services such as Google and Facebook are at times unavailable, giving rise to incredibly successful China born apps and services such as WeChat. In this class, we'll examine the current state-of-the art in mobile technology and smart devices. We'll focus on creating apps as well as exploring how mobile devices are changing the way we interact and communicate with

*one another and what effects this is having on society both within China and globally. No prior programming experience is required.*  
*This course satisfies: Major: IMA New Media & Entertainment Electives.*

INTM-SHU 165

### **Talking Fabrics**

This course will explore the history of textiles and how to communicate through the medium of fabric using new technologies. We communicate using fabric every day. The clothes we wear, which bags we carry our belongings in, and the economic and social price we pay for textiles speak volumes about our identities. The art of fabric-making entered human culture so early that we often use it for important metaphors. Our history is woven together by the tales we spin from our common threads. This course will cover basic textile crafts such as sewing, embroidery and patternmaking along with techniques on how to integrate textiles with electronic circuitry. New methods of fabric-making such as 3D Printing textiles and laser cutting fabrics will also be covered.

*Prerequisite: INTM-SHU 101.*

*This course satisfies: Major: IMA Experimental Interfaces & Physical Computing Electives.*

INTM-SHU 180

### **Design Expo**

Design Expo is an exercise in imagining a product or service from the “near future” (3-5 years) of technology. Students will be given a theoretical question (last year’s was “How can users make sense of a world with a billion accessible sensors?”) and will work in groups to imagine possible products, services, or solutions that would answer that question. The groups will research the problem, imagine possible solutions, solicit feedback, and return to the drawing board with what they’ve learned. The class will culminate in a presentation of the imagined product or service, as a demo or prototype, to a group of knowledgeable designers. The class is sponsored by Microsoft, who will announce this year’s question later this fall. One group will be selected by the review panel to travel to Microsoft’s Redmond campus in the United States, in July of next year, to present their work at Microsoft’s annual Faculty Summit.

*This course satisfies: Major: IMA Art & Design Electives.*

INTM-SHU 184

### **Communities & Net Literature**

Communities & Net Literature is a seminar taking a comparative look at the production of stand-alone texts in the Chinese-speaking and English-speaking internet. (Chinese texts will be read in translation.) Students will look at four different types of text: explanatory writing (Baike and Wikipedia sites); journalistic writing (factual accounts of events, as produced by collaborating groups); and literature (net literature in Chinese; fan fiction in English.) The fourth text will be one of the student’s choosing, for their final paper. In addition to reading the relevant texts and theoretical accounts of their production, we will study the behaviors and negotiations of the participants, and will engage in ‘distant reading’, asking questions about texts that can only be answered with computers. Examples are: What is the differing link structure of Baike and Wikipedia articles on the same subject? Which Harry Potter characters appear more frequently in Chinese vs. English fiction set in that universe? What are the patterns of participation on collaborative writing sites? The work of the class is readings, class discussion, group work, and applying new interpretative tools to the selected texts. Students will write a mid-term and a final paper about the work. No previous technical experience is required.

*This course satisfies: Core Curriculum: CA; Major: GCS Required, HUMN Digital Approaches Core Course, IMA Seminars.*

INTM-SHU 190

### **Collective Methods**

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 distributed course. Registration for this course is limited to IMA Majors studying at the Global Sites.*

*This course satisfies: Major: IMA New Media & Entertainment Electives.*

## INTM-SHU 191

### **Being There**

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Telepresence is an effect produced by a range of technologies that attempt to render remote presence, to better provide the sensation of being present, and to enhance participation in events at distant locations. In this online course, designed for NYU Shanghai Interactive Media Arts majors studying abroad, students will take advantage of their distance from one another to experiment with various telepresence technologies and techniques. Online spaces and communities, low-cost virtual reality solutions, streaming media, and remote actuation will be explored alongside WebSockets (a communications protocol) and Node.js (an open-source JavaScript runtime ideal for exchanging data in real-time). This class will afford students with the opportunity to collaborate with one another "in class" across the various NYU global sites, as well as to work on a project with students taking coursework being offered by the Interactive Media program at NYU Abu Dhabi. Note: This is an online course featuring both synchronous and asynchronous learning opportunities. Registration is limited to IMA Majors studying at NYU's global sites other than New York or Abu Dhabi.

*This course satisfies: Major: IMA Experimental Interfaces & Physical Computing Electives.*

## INTM-SHU 192

### **Interconnected**

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Since the formation of trade routes connecting early civilizations, networks have been central to both tangible and intangible human exchange. Silk, jade, gold, and other goods, in addition to 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. In this online course, designed for NYU Shanghai Interactive Media Arts majors studying abroad, students will learn the cultural, economic, and technological conditions that lead to the development of the Silk Road, transcontinental railways, electrical telegraph and telephone systems, and the World Wide Web. Against this historical backdrop, students will be asked to further consider modern network phenomenon such as social media, internet memes and mashups, crowdsourcing and crowdfunding, and the so-called Internet of Things. Through readings, critical dialog, and practical application, students will become familiar with network theories and topologies, methods for encoding information, the establishment of protocols and standards, concerns about infrastructure, logistics, and security, as well as evolving legislation concerning ownership, privacy, and censorship. Note: This is an online course featuring both synchronous and asynchronous learning opportunities. Registration is limited to IMA Majors studying at NYU's global sites other than New York or Abu Dhabi.

*This course satisfies: Major: IMA Computation & Data Electives.*

## INTM-SHU 193 / MCC-SHU 9993

### **Chinese Cyberculture**

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This course provides a general overview of some of the key topics that constitute Chinese cyberculture. We focus specifically on four main areas: censorship and netizens; the companies which dominate the online economy; the history and development of the electronic industry and game culture and Internet addiction. These topics are examined within the context of several overarching themes: technological determinism, protectionism, the nature of innovation and the increasingly intimate relationship of humans and machines. In addition, this course will guide students through the development of a research project on a related theme of their choosing.

*Prerequisite: None.*

*This course satisfies: Core Curriculum: SSPC or CA; Major: GCS Required, HUMN Digital Approaches Core Course, IMA Seminars.*

## INTM-SHU 209

### **This is the Remix**

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Now, more than ever, technology allows us to reshape existing content in order to create new messages and expressions. What does it mean to utilize "found media" in order to create new work -- and how can we use the process to comment on the status quo of our current cultural and social landscapes? This class explores remix, recontextualization, and reappropriation as artistic tools. We will examine current and past usage of the remix, from its well-known place in popular music to broader forms like YouTube mashups, cut-ups and text generators, Internet memes, culture jamming, and parody. Students will have the opportunity to experiment with both traditional and programmatic methods of remix, such as audio and video editing, by exploring Web APIs (YouTube, SoundCloud, and Echo Nest), and through the application of generative coding techniques. The class will also cover common legal issues surrounding remix culture, such as fair use, debate over current copyright laws, and the Creative Commons community and licensing system. All of these ideas will be further investigated through weekly reading assignments, class discussion and presentations, and the development of original remix projects utilizing the themes and techniques discussed in class.

*Prerequisite: Communications Lab.*

*This course satisfies: Major: IMA New Media & Entertainment Electives.*

**Animation: Traditional Techniques & Contemporary Practices**

Contemporary animation is no longer constrained to the single flat screen; it can now be seen on surfaces of any shape and size. This course takes students from traditional animation techniques to contemporary outputs. In the first part of the course students will focus on traditional animation, from script to storyboard through stop-motion and character based animation. The course then examines outputs afforded by new technologies, such as interactivity, multiple screens, projection mapping, and virtual reality (VR). Drawing skills are not necessary for this course, however students will keep a personal sketchbook.

*Prerequisite: Communications Lab.*

*This course satisfies: Major: IIMA New Media & Entertainment Electives.*

**Unmanned Aerial Storytelling**

It used to be difficult to put eyes in the sky. But things are changing rapidly. From balloons, to DIY drones, pro quadcopters, and high resolution imagery from satellites orbiting Earth – we will explore how the fields of storytelling, journalism, and conservation are being transformed from above. These technologies are more accessible than you may think. In this class, students will investigate the regulations, technologies, and practice of drones for storytelling. Students will gain a conceptual understanding of this space through programming toy drones, and by designing and participating in a drone storytelling feature. Students will also learn how aerial imagery can be used in innovative and interactive forms of media.

*This course satisfies: Major: IIMA New Media & Entertainment Electives.*

**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.

*This course satisfies: Major: IMA Art & Design Electives.*

**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 Unity3D (Game Engine), Blender (3D modelling), Photoshop (Texturing) and Github (Source code control.) Students will work in collaborative teams to create interactive virtual worlds. No previous programming experience needed.

*Prerequisite: None.*

*This course satisfies: Major: IIMA New Media & Entertainment Electives.*

**Introduction to Robotics**

Since the beginning of civilization, humans have fantasized about intelligent machines sensing and acting autonomously. In this course students will discover what robots are, learn how to design them, and use simple tools to build them. Students will use open source hardware to explore sensors and electronics, in addition to designing and building robot bodies and actuators through a variety of digital fabrication technologies. Using a set of community developed tools, students will become familiar with concepts such as mechatronics, inverse kinematics, domotics and machine learning. No previous programming or electronics experience is necessary, however students will be guided through a series of design challenges that their robots should be able to accomplish. With an emphasis on experimentation, peer learning, and teamwork, the objective of this course is to share in the excitement of robotics by enabling students to make their own creations.

*Prerequisite OR Corequisite: Interaction Lab.*

*This course satisfies: Major: IMA Experimental Interfaces & Physical Computing Electives.*

**Media and Participation**

Making words and images public used to be difficult, complex, and expensive. Now it's not. That change, simple but fundamental, is transforming the media landscape. A publisher used to be

required if you wanted to put material out into the public sphere; now anyone with a keyboard or a camera can circulate their material globally. New, cheap forms of communication have opened the floodgates to a massive increase in the number and variety of participants creating and circulating media. This change, enormous and permanent, is driving several effects in the media landscape today. This course covers the transition from a world populated by professional media makers and a silent public to one where anyone who has a phone or a computer can be both producer and consumer. This change, brought about by the technological and economic characteristics of digital data and networks, is upending old industries -- newspapers, music publishing, moviemaking -- faster than new systems can be put in place. The result is chaos and experimentation as new ways of participating in the previously sparse media landscape are appearing everywhere. This course will provide a brief history and economics of the previous media landscape, the design of digital networks that upend those historical systems, and new modes of participation for sharing words, images, audio and video. We will look at the dynamics of both English-language services, such as Twitter, Facebook and Instagram, and, in translation, Chinese-language services such as Sina Weibo, Weixin and QQ. The class will consist of class discussion around readings and lectures, in-class presentations and analysis of new uses of media that you observe (or participate in) outside class. There will be two written analyses of the media landscape, one at mid-term and one final paper.

*Prerequisite: None*

*This course satisfies: Core Curriculum: SSPC or CA; Major: GCS Required, HUMN Digital Approaches Core Course, IMA Seminars, Social Science Focus.*

INTM-SHU 230-003

### **Topics in Computation & Data: The Code of Music**

This course explores music through the lens of computation and interaction design. The first half of the course will include a structured exploration of rhythm, melody, harmony, and timbre. Each week, students will examine elements through listening modules, programmatic manipulation through code, the creation of visualizations, as well as the implementation of interface design. The second half of the course will examine algorithmic composition techniques, including markov chains, formal grammar, and cellular automata. Students will develop final projects which may include physical devices, digital applications, and spatial installations. Course examples will be written in Javascript, using libraries such Tone.js and P5.js, but students will be free to use other languages and frameworks.

*Prerequisite: Interaction Lab or Communications Lab.*

*This course satisfies: Major: IMA Computation & Data Electives.*

INTM-SHU 231

### **Developing Web**

The Web now permeates most aspects of modern existence, and as a result, web development has become an indispensable skill complementary to many diverse disciplines. Students in this course will gain fluency in essential web languages and development approaches through a series of creative yet practical exercises aimed at touching on many important aspects of today's multi-faceted World Wide Web -- by building responsive websites, engaging games, and rich internet applications for the desktop, mobile devices, and Arduino microcontroller. Design principles will be explored through corresponding HTML and CSS structures, and will be based on a consideration for typography, images, audio and video. Dynamic data and interaction will be investigated through client-side scripting techniques using JavaScript, including the popular jQuery library. User generated content and the importance of content management will be reflected on through server-side scripting techniques utilizing the PHP based WordPress platform. Data storage and retrieval will be made possible through the application of MySQL databases and the HTML5 Local Storage specification. And universal data exchange formats, JSON and XML, will be part of an ongoing experimentation with third party APIs (Application Programming Interfaces) such as Flickr, Firebase, Google Maps, Twitter, Xively & YouTube.

*Prerequisite: None.*

*This course satisfies: Core Curriculum: Algorithmic Thinking; Major: IMA Computation & Data Electives.*

INTM-SHU 233

### **Collaborative Design**

Collaborative Design is a design research class. You will placed in a group, and your group will imagine and research a proposed solution for a given design problem. The work of the class will be an increasingly detailed set of design briefs, centered on research, prototypes, and tests, all designed to explore and improve your proposed answer to the semester's design problem. Every group will work with both potential users and experts outside the class to understand their needs and get their feedback. Your group will show your final project to a group of design professionals for review.

*This course satisfies: Major: IMA Art & Design Electives.*

INTM-SHU 234

### **Rapid Prototyping**

Beginning with a design problem or challenge, and following a period of analysis and research, a designer can begin to draft, prototype, test, and evaluate possible solutions, often repeating these operations several times until the design reaches maturity. Agile software development

methodologies, which involve the formation of self-organized cooperative teams, frequent deadlines with deliverables, and a willingness to accept changing conditions and requirements, have radically changed the way software is being produced. Additionally, new applications, such as Fritzing, 123D Circuits, and Eagle have greatly facilitated the process of electronic circuit design. And Computer Aided Design (CAD) applications, for example Rhinoceros and Tinkercad, and newly available digital fabrication equipment have dramatically quickened the pace with which designers can create physical prototypes. Students in this course will be confronted with a series of design challenges for which they have to propose and prototype possible solutions. The first design challenge will entail the entire class working together to produce a software prototype by adopting agile strategies. The second design challenge will involve students in the process of refining a circuit, and will require bringing a prototype from schematic, to breadboard, perfboard, and finally resulting in a printed circuit board. For the third design challenge, students will explore the use of 3D printers, laser cutters, computer numerical control (CNC) machines, and other tools to produce a physical prototype. Students will then be free to work on a personal design challenge for their final project.

*Prerequisite: INTM-SHU 101 or Permission of the instructor.*

*This course satisfies: Major: IMA Art & Design Electives.*

#### INTM-SHU 235

#### **Topics in Art & Design: Digital Fabrication (2 credits)**

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*Prerequisite: None. This course satisfies: Major: IMA Art & Design Electives.*

#### INTM-SHU 236

#### **Topics in Art & Design 4pt Interactive Installation (4 credits)**

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Interactive installations leverage the viewer to create an experience that is more than just the sum of its components. What technologies, techniques, and fabrication skills can we leverage to achieve the "wow" factor and create enthusiasm and engagement? We will examine what sustained creative practice we can achieve by building compelling artistic content in a physical space. This class will utilize architecture and space planning, electronics, mechanical construction, cutting edge technologies and design ideals to create prototype artistic installations. Short term assignments will culminate in a largescale final project.

*Prerequisite: Interaction Lab.*

*This course satisfies: Major: IMA Art & Design Electives.*

#### INTM-SHU 240

#### **Solar Solutions: Considering The Sun in our Digital Future**

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Solar power is on track to be a major contributor to renewable energy systems of the future. Small scale photovoltaic cells can provide energy directly at point of use without the expense of an electricity grid and with the added benefit that the energy is free and non-polluting. This class examines how photovoltaic cells can be incorporated into interactive art, internet enabled devices and anything in between. We will look at the science behind various photovoltaic panels, calculate power requirements, and build our understanding about panel assembly and use. Among other things, students will experiment with solar circuits, BEAM robotics (Biology, Electronics, Aesthetics and Mechanics) and how to use photovoltaic cells with micro-controllers. Throughout the semester students will design a series of conceptual paper prototypes and physical prototypes as solutions to artistic and design challenges given throughout the course.

*Prerequisite: INTM-SHU 101.*

*This course satisfies: Core Curriculum: STS; Major: IMA Experimental Interfaces & Physical Computing Electives.*

#### INTM-SHU 245

#### **Topics in Experimental Interfaces & Physical Computing: Animatronics (2 credits)**

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Animatronics is a multi-disciplinary field which integrates anatomy, mechatronics and puppetry resulting in the lifelike animation of physical objects. In this course we will explore what factors bring electronic devices to emulate humans and animals. Using open source software we will first develop characters. By tapping into common prototyping techniques, we will then create advanced movements in mechanisms that will look and perform as if they are alive. We will also learn how to create sequences of actions, as well as how to control them remotely. Each student is expected by the end of the course to be able to develop their own animatronic being, and to make it behave in a lifelike way.

*This course satisfies: Major: IMA Experimental Interfaces & Physical Computing Electives.*

#### INTM-SHU 246-001

#### **Topics in Experimental Interfaces & Physical Computing: Digital Farm (4 credits)**

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Students in this class will research how plant rearing technology is currently used in both large and small scale farming, and how we could apply these techniques to empower small scale and urban growers. Commodity crop farming is a billion dollar industry with big players selling black box systems incorporated into their farming machinery. It seems bizarre to consider that major farming companies like John Deere and Caterpillar likely spend as much time on digital rights management as a mid level software company. Rather than take on a market of that scale we will be focusing on how we can design systems and interfaces for our LAF (Local Area Farm) which incorporates plants situated around NYU Shanghai in areas we have designated as good for

supporting plant life. Areas of exploration include: hydroponics, watering, and monitoring vs soil, development of devices for urban farming, calculating solar exposure and artificial light control, as well as germinating seeds vs seedlings.

*Prerequisite: None.*

*This course satisfies: Major: IMA Experimental Interfaces & Physical Computing Electives; Core Curriculum: Algorithmic Thinking.*

INTM-SHU 246-003

### **Topics in Experimental Interfaces & Physical Computing - 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.

*Prerequisite: Interaction Lab.*

*This course satisfies: Major: IMA Experimental Interfaces & Physical Computing Electives.*

INTM-SHU 250

### **Special Topics in Digital Humanities: Street Food & Urban Farming**

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This course introduces and makes use of digital tools (audio, video and mapping technologies) to research and record an immersive engagement with the city. It also includes a lab-based workshop in interactive media that is designed around a relevant theme. This semester the course focuses on street food & urban farming. The preservation, adaptation and disappearance of street food raise many issues that are central to contemporary Shanghai: globalization, creativity and cultural heritage, urbanization, the informal economy, and the environment. This course examines these topics by focusing on the following questions: How is Shanghai working to both integrate and exclude its migrant population? What room is there for itinerant vendors and the informal markets of the streets in the 21st century metropolis? What role does creativity play in the attempts to preserve the city's culinary heritage? How does street food contribute to the city's attempts to provide safe, affordable and nutritious food for its ever-growing population? Adding an extra dimension to our analysis of food in the city, the course will include an intensive workshop on urban farming led by experts in the field. This will involve; an introduction to the challenges and opportunities of urban farming in China; a tour to a local urban garden, and a hands-on component aimed at building a hydroponic window farm in the IMA lab.

*Prerequisite: None.*

*This course satisfies: Core Curriculum: SSPC; Major: GCS Required or Electives, HUMN Digital Approaches Core Course, IMA Seminars.*

INTM-SHU 251

### **Making Maker Education**

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Sharing and learning new skills, knowledge or practices are a critical part of the growing Maker movement. Makers engage in teaching and learning activities through workshops, mentoring and by collaborating with peers. This course explores how teaching/learning in the Maker context can be more fun, more effective and create richer learning experiences. Students will be free to explore making as a learning activity that uses high-tech (programming, arduinos, sensors, etc), low-tech (basic electronics, power tools, etc) or no-tech (hand tools, cardboard, etc) approaches. A portion of the course will be devoted to integrating the arts (music, drama, visual arts) into learning activities that revolve around technology and science. The primary focus of this course will be on practice. Students will create and run learning activities for their target audience, consistently improving the modules based on reflection. Students will also be expected to observe learning activities designed by their peers and provide feedback.

*This course satisfies: Major: IMA Seminars.*

INTM-SHU 252

### **The Minimum Viable Product**

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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.

*This course satisfies: Major: IMA Seminars.*

INTM-SHU 255

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**Topics in Business of Interactive Media The Consumer Class**

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*This course satisfies: Major: IMA Business of Interactive Media Electives.*

INTM-SHU 270

**Generating and Expressing Data**

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Human beings are producing, consuming and sharing data at any given moment. However, what kinds of data are meaningful to us? How do we capture and collect that data? What are the best ways to present it? What stories do we want to tell with data? This course will explore these questions and more. Students will learn basic techniques for data collection and filtering. Student projects can be digital, physical, visual, musical, or (with approval) take any form imagined.

*Prerequisite: INTM-SHU 101.*

*This course satisfies: Major: IMA Computation & Data Electives.*

INTM-SHU 280

**Topics in New Media & Entertainment Exploring Location Through Emerging Media Video Games**

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This course focuses on video game design and development using Blender, a multi-purpose 3D computer graphics tool, and Unity, a popular 3D game engine. Students will learn the basics of 3D modeling, animation, shaders and materials, as well as the asset pipeline for Blender in the first 7 weeks. Students will apply these skills to create a 3D animation project for the midterm. The second half of the class focuses on scripting and game development using Unity. Students will produce an interactive 3D game for their final projects. Class time will be split between discussions of video games and related media (including game history, mainstream and indie games, art games, and other interactive projects), presentation and critique of student work, as well as demonstrations of Blender and Unity.

*Prerequisite: Interaction Lab or Communications Lab.*

*This course satisfies: Major: IMA New Media & Entertainment Electives.*

INTM-SHU 285

**Seminar Topics Science Fiction Cinema**

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This course is based on an analysis of Science Fiction films (and related readings). Each term the course will explore a particular theme (e.g. time & technology; memory & identity etc.). In Fall 2016 we will focus on the emergence of technological intelligence and the possibility of machinic consciousness.

*Prerequisite: None.*

*This course satisfies: Major: IMA Seminars.*

INTM-SHU 290A

**Interactive Media Arts Internship**

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INTM-SHU 997

**Independent Study**

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Students majoring in IMA 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 have a study proposal that is approved by an IMA professor. Students are expected to spend about ten to twelve hours a week on their project for 4 credits.

*Prerequisite: Permission of the department.*

PHIL-SHU 130

**Philosophy of Technology: Thinking Machines**

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This course aims to train students to think philosophically about our rapidly changing – and ever more intimate – relationship with machines. We focus in particular on the following subjects: Artificial Intelligence, robots, cyborgs, automation and science fiction speculation.

*Prerequisite: None.*

*This course satisfies: Core Curriculum: STS; Major: HUMN Critical Concept Core Course or Digital Approaches Core Course or Topic, IMA Seminars.*

# Mathematics

## 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 and matrix operations are also covered.

*Prerequisite: Placement via NYU SH Mathematics Placement Exam.*

*This course satisfies: Core Curriculum: Mathematics.*

## 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, proof, 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.*

*This course satisfies: Core Curriculum: Mathematics.*

## 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.*

*This course satisfies: Major: Social Science Methods.*

## MATH-SHU 112 Multivariable Calculus and Differential Equations

*(See MATH-SHU 212)*

## MATH-SHU 120 Discrete Mathematics

*(See CSCI-SHU 2314)*

## MATH-SHU 121 (formerly 110) 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 Examination or a grade of C or better in MATH-SHU 9.*

## MATH-SHU 123 (formerly 151) Multivariable Calculus

This course explores calculus of functions of several variables. Topics covered include power series, differentiation and integration of functions of several variables, including directional derivatives, the gradient, line and multiple integrals, and the theorems of Green, divergence, and Stokes.

*Prerequisite: Grade of C or better in MATH-SHU 121.*

## MATH-SHU 140 Linear Algebra

This first course in linear algebra covers systems of linear equations, vectors, linear transformations, matrices and their determinants, vector spaces, basis and dimension, eigenvectors and eigenvalues, quadratic forms, and matrix decompositions. In addition to its role as an essential topic within mathematics, linear algebra is also critically useful throughout the sciences: for example, in estimation theory, chemical equations, electrical networks, and heat distributions.

*Prerequisite: Grade of C or better in MATH-SHU 121.*

**Honors Linear Algebra I (formerly Advanced Linear Algebra I)**

This is the first semester of a 2-semester sequence in linear algebra for advanced mathematics majors. Topics covered include fields, vector spaces, linear independence, dimension, linear transformations, rank, matrices, eigenvalues, eigenvectors, determinants, characteristic polynomials, and the Cayley-Hamilton theorem. Examples from applications are also covered, including interpolation problems, traffic flows, genetics, the fundamental theorem of algebra, electric circuits, static mechanics, and consumption matrices in economics.

*Prerequisite: Placement on NYU SH mathematics placement exam.*

*This course satisfies: Major: Honors MATH Required Mathematics.*

## MATH-SHU 142

**Honors Linear Algebra II (formerly Advanced Linear Algebra II)**

This course is a continuation of Honors Linear Algebra I. Topics covered include eigenspaces, multiplicities of eigenvalues, diagonalization, the Schur decomposition theorem, inner product spaces, the Gram-Schmidt process, orthogonality, adjoint maps, spectral theory, self-adjoint, normal, and unitary maps, bilinear forms, the Cholesky theorem, singular value decomposition, pseudoinverses, least-squares solutions via normal equations, ideals of polynomials, reducibility of maps, nilpotence, the Jordan decomposition theorem, minimal polynomials, the Penrose-Frobenius theorem, and stochastic matrices. Examples covered from applications include data compression, optimization, QR factorization of least squares approximation, solutions of simultaneously coupled polynomial equations, determination of the critical temperature of a superconductor, and image compression via singular value decomposition.

*Prerequisite: Grade of C or better in MATH-SHU 141.*

*This course satisfies: Major: Honors MATH Required Mathematics.*

## MATH-SHU 150

**Probability and Statistics**

(See MATH-SHU 235)

## MATH-SHU 151

**Multivariable Calculus**

(See MATH-SHU 123)

## MATH-SHU 160

**Networks and Dynamics**

This is a post-calculus mathematics course that is designed to prepare students to enter a broad set of majors, from natural sciences through social sciences. The preliminary goal is to address the following challenge: today's science and world at large requires us to understand how the dynamical interactions between individual units in a complex network give rise to collective behavior, be it genetic network that makes us who we are, neural network underlying our brain functions, social network of friends through Facebook or WeChat. The language for providing a scientific understanding of such systems is the mathematics of network theory, linear algebra, and differential equations. These topics are integrated to provide a unifying course that introduces analysis methods and mathematical models for understanding dynamical network behavior. Computer simulations will be a major component of this hands-on course.

*Prerequisite: Grade of C or better in MATH-SHU 121 and 140. Not open to students who have taken MATH-SHU 264.*

*This course satisfies: Major: Honors MATH Electives, MATH Electives.*

## MATH-SHU 161

**Linear Algebra and Network Theory**

Linear systems appear throughout the applied sciences; examples include chemical equations, electrical networks, and heat distribution. This course covers linear algebra and its application to networks. Topics discussed include systems of linear equations, matrices and their determinants, eigenvectors and eigenvalues, quadratic forms, and matrix decompositions, all with a view towards applications in network theory, which is addressed in the latter third of this course.

*Prerequisite: MATH-SHU 121.*

## MATH-SHU 170

**Applied Probability and Statistics**

Probability and statistics continue to have increasing relevance in all of the applied sciences.

This course introduces those subjects with emphasis on applications, using the ideas of calculus as a foundation. Topics discussed include random variables, probability distributions, moments, conditional probability, laws of large numbers, Markov chains, statistical inference, hypothesis testing, multiple regression, and Markov chain Monte Carlo methods.

*Prerequisite: MATH-SHU 121.*

**MATH-SHU 201****Honors Calculus (formerly Calculus Emphasizing Proofs)**

This is a rigorous course in single-variable calculus for mathematics majors, providing preparation for advanced courses in analysis. Topics covered include number systems, functions, graphs, vectors, conic sections, polar coordinates, limits, continuity, least upper bounds, the derivative, convexity and concavity, inverse functions, parametric curves, Riemann sums, integrals, and the fundamental theorem of calculus.

*Prerequisite: Placement via NYU SH Mathematics Placement Examination.*

**MATH-SHU 202****Analysis I**

(See MATH-SHU 328)

**MATH-SHU 203****Analysis II**

(See MATH-SHU 329)

**MATH-SHU 204****Analysis I**

(See MATH-SHU 349)

**MATH-SHU 205****Algebra II**

A continuation of Algebra II, this course emphasizes ideas in representation theory. Topics covered include representations and characters of finite, compact, and Lie groups, induced representations, the theorems of Artin, Brauer, and Peter-Weyl, Lie algebras, algebraic geometry, and applications of representation theory to algebra and physics.

*Prerequisite: MATH-SHU 204.*

*This course satisfies: Major: Honors MATH Electives.*

**MATH-SHU 212 (formerly 112 & 124)****Multivariable Calculus and Differential Equations**

This course explores advanced topics in calculus. Topics covered include sequences and series, power series, matrix algebra in dimensions two and three, first and second-order differential equations, series solutions of differential equations, and differentiation and integration of functions of several variables, including directional derivatives, the gradient, and double, triple, and line integrals.

*Prerequisite: Grade of C or better in MATH-SHU 121.*

**MATH-SHU 228****Earth's Atmosphere and Ocean: Fluid Dynamics & Climate**

This course is an introduction to the dynamical processes that drive the circulation of the atmosphere and ocean, and their interaction. Lectures will be guided by consideration of observations and experiments, with the goal of developing an understanding of the unifying principles of planetary fluid dynamics. Topics include the global energy balance, convection and radiation (the greenhouse effect), effects of planetary rotation (the Coriolis force), structure of atmospheric circulation (the Hadley cell and wind patterns), structure of the oceanic circulation (wind-driven currents and the thermohaline circulation), and climate variability, including El Niño and anthropogenic warming.

*Prerequisite: Grade of C or better in MATH-SHU 121 or 201.*

*This course satisfies: Major: Honors MATH Electives, MATH Mathematics Electives.*

**MATH-SHU 230****Introduction to Fluid Dynamics**

Fluid dynamics is the branch of physics that describes motions of fluids as varied as the flow of blood in the human body, the flight of an insect or the motions of weather systems on Earth. The course introduces the key concepts of fluid dynamics: the formalism of continuum mechanics, the conservation of mass, energy and momentum in a fluid, the Euler and Navier-Stokes equations, viscosity and vorticity. These concepts are applied to study classic problems in fluid dynamics, such as potential flow around a cylinder, the Stokes flow, the propagation of sound and gravity waves and the onset of instability in shear flow.

*Prerequisite: Grade of C or better in MATH-123 or 329.*

**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 approximation, random variables, probability distributions, generating functions, and Markov chains and their applications.

*Prerequisite: Grade of C or better in MATH-SHU 123 or 329. Not open to students who have taken MATH-SHU 235.*

**MATH-SHU 234**  
**Mathematical Statistics**

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A continuation of Theory of Probability, this course is an introduction to the mathematical foundations and techniques of modern statistical analysis for the interpretation of data in the quantitative sciences. Topics covered include the mathematical theory of sampling, normal populations and distributions, Chi-squared, t, and F distributions, hypothesis testing, sequential analysis, correlation, regression, analysis of variance, and applications to the sciences.

*Prerequisite: Grade of C or better in MATH-SHU 233.*

*This course satisfies: Major: Honors MATH Electives, MATH Mathematics Electives.*

**MATH-SHU 235 (formerly 150)**

**Probability and Statistics**

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This course comprises a combination of the theory of probability and the mathematical foundations 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 and 140. Not open to students who have taken MATH-SHU 233.*

**MATH-SHU 240**  
**Combinatorics**

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This course introduces basic concepts in combinatorics and techniques for counting and enumeration. Topics covered include generating functions, the principle of inclusion and exclusion, Polya counting, graph theory, and modern algorithms and data structures for graph-theoretic problems.

*Prerequisite: Grade of C or better in MATH-SHU 121 or 201.*

*This course satisfies: Major: Honors MATH Electives, MATH Mathematics Electives.*

**MATH-SHU 241**  
**Number Theory**

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This course builds on the ideas of abstract algebra, but also employs analytic techniques. Topics include valuations, Dedekind domains, Minkowski's theorem, ramification, the Riemann-Roch theorem and Riemann-Hurwitz formula, connections to Riemann surfaces and algebraic curves, reciprocity, zeta functions, and the prime number theorem.

*Prerequisite: Grade of C or better in MATH-SHU 349.*

*This course satisfies: Major: Honors MATH Electives, MATH Mathematics Electives.*

**MATH-SHU 245**

**Mathematical Choice Theory**

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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 or 201.*

*This course satisfies: Major: Social Science Methods.*

**MATH-SHU 250**

**Mathematics of Finance**

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Introduction to the mathematics of finance. Topics: linear programming with application to pricing, Interest rates and present value, Basic probability, random walks, central limit theorem, Brownian motion, log-normal model of stock prices. Black-Scholes theory of options. Dynamic programming with application to portfolio optimization.

*Prerequisites: MATH-SHU 123 or 233 or 235.*

*This course satisfies: Major: Honors MATH Electives, MATH Mathematics Electives, BUSF Additional Finance Electives.*

**MATH-SHU 252**  
**Numerical Analysis**

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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 and 140 or MATH-SHU 141 and 329.*

*This course satisfies: Major: Honors MATH Electives, MATH Mathematics Electives; Only counts for 2 credits of the Algorithmic Thinking category.*

**MATH-SHU 262**  
**Ordinary Differential Equations**

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This course introduces the main ideas of ordinary differential equations. Topics include vector fields, existence and uniqueness of solutions to first-order linear differential equations, stability, higher order differential equations, the Laplace transform and numerical methods, linear and nonlinear systems, and Sturm-Liouville theory.

*Prerequisite: Grade of C or better in MATH-SHU 121 and 140 or MATH-SHU 141 and 201.*

*This course satisfies: Major: MATH Required.*

**MATH-SHU 263**  
**Partial Differential Equations**

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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.*

*This course satisfies: Major: NS Electives, Honors MATH Electives, MATH Mathematics Electives.*

**MATH-SHU 264**  
**Dynamical Systems**

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Topics will include dynamics of maps and of first order and second-order differential equations: stability, bifurcations, limit cycles, dissection of systems with fast and slow time scales. Geometric viewpoint, including phase planes, will be stressed. Chaotic behavior will be introduced in the context of one-variable maps (the logistic), fractal sets, etc. Applications will be drawn from physics and biology. There will be homework and projects, and a few computer lab sessions (programming experience is not a prerequisite).

*Prerequisite: Grade of C or better in MATH-SHU 121 and 140 or MATH-SHU 141 and 201. Not open to students who have taken MATH-SHU 160.*

*This course satisfies: Major: Honors MATH Electives, MATH Constrained Math Electives.*

**MATH-SHU 265**  
**Linear Algebra and Differential Equation**

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*This course satisfies: Major: Data Science Math Required, EE Required, CHEM Additional Required, PHYS Additional Required.*

**MATH-SHU 282**  
**Functions of a Complex Variable**

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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 continuous, and applications to fluid flow.

*Prerequisite: Grade of C or better in MATH-SHU 123 and 140 or MATH-SHU 141 and 329.*

*This course satisfies: Major: Honors MATH Required, MATH Required.*

**MATH-SHU 328 (formerly 202)**  
**Honors Analysis I**

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This course is a continuation of Calculus Emphasizing Proofs. Topics covered include integration techniques, trigonometric functions, the logarithm, exponential functions, approximation by polynomials, sequences, series, convergence, uniform convergence, power series, Taylor series, complex numbers and functions, Euclidean spaces, and basic topology.

*Prerequisite: Grade of C or better in MATH-SHU 201.*

*This course satisfies: Major: Honors MATH Required, MATH Constrained Math Electives.*

**MATH-SHU 329 (formerly 203)**  
**Honors Analysis II**

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This course is a continuation of Analysis I, with emphasis on functions of several variables. Topics covered include the topology of Euclidean space, the Stone-Weierstrass theorem, the implicit

and inverse function theorems in several variables, Jordan regions, linear transformations, differentiation of integrals, and integration of differential forms.

*Prerequisite: Grade of C or better in MATH-SHU 328.*

*This course satisfies: Major: Honors MATH Required, MATH Constrained Math Electives.*

**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 123 and 140, or MATH-SHU 141 and 329.*

*This course satisfies: Major: Honors MATH Required, MATH Constrained Math Electives.*

**MATH-SHU 349 (formerly 204)**

### **Abstract Algebra I**

This introduction to abstract algebra is a rigorous study the notions of group, ring, and field. Topics covered include symmetric and linear groups, the Sylow theorems, polynomial and quotient rings, ideals, unique factorization, the Nullstellensatz, field extensions and finite fields.

*Prerequisite: Grade of B or better in MATH-SHU 140 and 123 or MATH-SHU 141 and 329.*

*This course satisfies: Major: Honors MATH Electives, MATH Constrained Math Electives.*

**MATH-SHU 362**

### **Honors Ordinary Differential Equations**

**MATH-SHU 375 (formerly 290)**

### **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.*

*This course satisfies: Major: Honors MATH Electives, MATH Mathematics Electives.*

**MATH-SHU 377 (formerly 292)**

### **Differential Geometry**

This course investigates the differential properties of curves and surfaces. Topics covered include differential manifolds and Riemannian geometry.

*Prerequisite: MATH-SHU 329.*

*This course satisfies: Major: Honors MATH Electives, MATH Constrained Math Electives.*

**MATH-SHU-G 2043**

### **Scientific Computing**

This course is intended to provide a practical introduction to computational problem solving. Topics covered include the notions of well-conditioned and poorly conditioned problems, forward and backward stability of an algorithm, basic techniques for numerical solutions of linear and nonlinear equations, numerical optimization, principles of numerical interpolation, differentiation and integration, splines and quadrature schemes, numerical methods for solving ordinary differential equations, matrix factorizations and computational techniques, and basic principles of the discrete (fast) Fourier transform, with applications to signal processing, data compression and solutions of differential equations.

*Prerequisite: Grade of C or better in MATH-SHU 123 and 140 or MATH-SHU 141 and MATH-SHU 329.*

**MATH-SHU-G 2140**

### **Representation Theory**

This course introduces the basic elements of representation theory. Topics covered include representations and characters of finite, compact, and Lie groups, induced representations, the theorems of Artin, Brauer, and Pe-ter-Weyl, Lie algebras, algebraic geometry, and applications of representation theory to algebra and physics.

*Prerequisite: Grade of C or better in MATH-SHU 349.*

**MATH-SHU-G 2210**

### **Number Theory**

This course builds on the ideas of abstract algebra, but also employing analytic techniques. Topics include valuations, Dedekind domains, Minkowski's theorem, ramification, the Riemann-Roch theorem and Riemann-Hurwitz formula, connections to Riemann surfaces and algebraic curves, reciprocity, zeta functions, and the prime number theorem.

*Prerequisite: Grade of C or better in MATH-SHU 349.*

**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.*

**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 141 and MATH-SHU-G 2430.*

**CSCI-SHU 2314 (formerly MATH-SHU 120 & 237)****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, and 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 or 201.*

*This course satisfies: Major: Honors MATH Electives, MATH Mathematics Electives, CS Required, CE Required, Data Science Concentration in CS.*

# Neural Science

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.*

*This course satisfies: Core Curriculum: STS; Major: NS Electives*

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: CCSC-SHU 110.*

*This course satisfies: Major: BIOL Electives, NS Additional Required.*

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.

*Prerequisites: Introduction to Neural Science or Introduction to Psychology. The prerequisite can be waived based on the student's background. Contact the course instructor directly for this request.*

*This course satisfies: Major: NS Electives.*

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.*

*This course satisfies: Major: NS Additional Required.*

NEUR-SHU 260

## Development and Dysfunction of the Nervous System

This course will explore how the nervous system develops in normal animals, and how genetic and epigenetic factors can disrupt these processes. Lectures on normal developmental mechanisms will be interleaved with those on disorders to provide a solid foundation for our discussions of abnormal events during maturation. The lectures on normal development cover a broad range of topics including differentiation, axon outgrowth, synapse formation, specificity of connections, and plasticity. The lectures on dysfunction include autism, dyslexia, mental retardation, specific language impairment, hearing loss, blindness, ADHD, demyelinating or neurodegenerative disorders, and axon regeneration. The major goals of the course will be understand the extent to which current theories can explain the etiology of each disorder, and to learn how basic research can best facilitate advances in our knowledge and, ultimately, lead to treatments or cures.

*Prerequisite: CCSC-SHU 114 & NEUR-SHU 251.*

*This course satisfies: Major: NS Electives.*

**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. Introduction to Neural Science or with permission of the instructor.

*This course satisfies: Major: NS Electives.*

**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 development language disorders, including aphasias, 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.*

*This course satisfies: Core Curriculum: STS; Major: NS Electives.*

**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."

*Prerequisite: BIOL-SHU 201.*

*This course satisfies: Major: NS Electives.*

**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.

*Prerequisites: CCSC-SHU 114 & NEUR-SHU 251.*

*This course satisfies: Major: NS Additional Required.*

**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: Calculus, Mathematics for the Sciences or Network and Dynamics, or permission by the instructor. Familiarity with linear algebra, ordinary differential equation, and programming are recommended but not required. *This course satisfies: Major: NS Electives.*

**NEUR-SHU 997****Independent Study I - Neural Science**

*Prerequisite: Foundations of Science I-III (or Physics I&II, Foundations of Chemistry I&II, Foundations of Biology I&II), Introduction to Neural Science, Biostatistics, Cellular and Molecular Neuroscience, Behavioral and Integrative Neuroscience, and a minimum GPA of 3.0 overall and in all science and mathematics courses required for the major, permission of a neural science 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 Neural Sciences. 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.

# Physics

CCSC-SHU 50

## Physics I

Co-requisite: MATH-SHU 121.

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CCSC-SHU 51

## Physics II

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PHYS-SHU 71

### FoS Physics Laboratory

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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.

*This course satisfies: Core Curriculum: ED; Major: Science Majors Foundations of Science I, CE Prereq, EE Prereq.*

PHYS-SHU 91

### Foundations of Physics I Honors

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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, Oscillations and Harmonic Motion, Lagrangian and Hamiltonian formulation of mechanics, Temperature, Heat, the First Law of Thermodynamics, Kinetic Theory of Gases, Entropy, the Second Law of Thermodynamics, Electric Force and Field, Electric Flux and Gauss's Law, Electric Fields in Matter, Maxwell's Equations for Electrostatics.

*This course satisfies: Core Curriculum: ED; Major: Science Majors Foundations of Science I, Honors MATH Science Requirement, MATH Science Requirement, CE Prereq, EE Prereq.*

PHYS-SHU 93

### Foundations of Physics II Honors

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*Prerequisites: CCSC-SHU 103 or PHYS-SHU 91.*

*This course satisfies: Major: Science Majors Foundations of Science II, Honors MATH Science Requirement, MATH Science Requirement, CE Prereq, EE Prereq.*

PHYS-SHU 95

### Foundations of Physics III

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*Prerequisites: CCSC-SHU 108 or PHYS-SHU 93. This course satisfies: Major: PHYS Foundations of Science III.*

PHYS-SHU 106

### Mathematical Physics

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Mathematical preparation for the junior and senior courses in physics. Vector analysis, Fourier series and integrals, ordinary differential equations, matrices, partial differential equations, and boundary-value problems.

*This course satisfies: Major: PHYS Additional Required.*

PHYS-SHU 210

### Computational Physics

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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-SHU 114 or PHYS-SHU 95) & MATH-SHU 124.*

*This course satisfies: Major: PHYS Electives.*

PHYS-SHU 250

### Mechanics

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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-SHU 114 or PHYS-SHU 95) & MATH-SHU 212.*

*This course satisfies: Major: PHYS Additional Required.*

**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-SHU 114 or PHYS-SHU 95) & MATH-SHU 212.*

*This course satisfies: Major: PHYS Additional Required.*

**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-SHU 250.*

*This course satisfies: Major: PHYS Electives.*

**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-SHU 250.*

*This course satisfies: Major: PHYS Electives.*

**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-SHU 114 or PHYS-SHU 95) & MATH-SHU 160.*

*This course satisfies: Major: PHYS Additional Required.*

**PHYS-SHU 302****Statistical Mechanics and Thermodynamics**

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-SHU 250.*

*This course satisfies: Major: PHYS Additional Required.*

**PHYS-SHU 303****Advanced Physics Laboratory**

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-SHU 114 or PHYS-SHU 95.*

*This course satisfies: Major: PHYS Additional Required.*

**PHYS-SHU 314****Astrophysics**

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-SHU 250.*

*This course satisfies: Major: PHYS Electives.*

**PHYS-SHU 315****Nuclear and Particle Physics**

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-SHU 250.*

*This course satisfies: Major: PHYS Electives.*

**PHYS-SHU 997**

**Independent Study - Physics**

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*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 physics 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 Physics. 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 physics 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.

**PHYS-SHU 999**

**Undergraduate Research Thesis**

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*Prerequisites: Independent Study (PHYS-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 faculty sponsor and the Dean of Arts & Sciences. Open to Physics majors only. The faculty mentor must be selected in consultation with the Dean of Arts & Sciences. May not be used for the major in physics. Offered in the fall, spring, and summer. 2 points.*

For physics majors who have completed at least one semester of laboratory research (PHYS-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.)

# Social Science

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## SOCS-SHU 10 Community Development & Service-Learning

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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.

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## SOCS-SHU 100 Public Speaking in a Leadership Context

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The purpose of this course is to provide a competitively chosen cohort of NYU Shanghai 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 NYU Shanghai 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.

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## SOCS-SHU 129 Taboo and Pollution

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This course is an in-depth introduction to the study of taboo, dirt, and cleanliness. We'll examine a range of actual examples from around the world, including taboos around sexuality, hair, and blood; food taboos, and other taboos governing religious practices; disgust, fear, and avoidance; modern and contemporary conceptions of hygiene, filth, and waste treatment; as well as the ideas underlying racism and social purity, built on the logic of taboo. We'll survey and discuss a wealth of writings, including the latest attempts to re-think and understand the classic topic of taboo. This is mainly through anthropology (Valeri, Douglas, Steiner, and other authors) but also through crucial contributions from psychology and literary studies (Freud, Kristeva, and others). Students will engage in research and writing, including on their own personal experiences of taboo and pollution.

*Prerequisite: None.*

*This course satisfies: Major: HUMN Survey.*

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## SOCS-SHU 131 China and International Law

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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.*

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## SOCS-SHU 132 Shanghai: Urban Planning and Development of a Twenty-First Century Global City

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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 135

### **Environment and Society**

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Topics examined include environmental history and concepts of nature and the environment; the rise of environmentalism; environmental skepticism; anthropogenic global change; population and consumption; ecological footprint analysis, and other environmental indicators; environmental justice; public goods and collective action problems; regulatory regimes; environmental politics; environmental values; environmental movements, protest, and disobedience; and the future of environmentalism.

*Prerequisite: None.*

*This course satisfies: Core Curriculum: SSPC; Major: Social Science Foundation.*

SOCS-SHU 141

### **Methods of Social Research**

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This is an introduction to research methods in the social sciences. It provides a foundation for an understanding of the major approaches in the social sciences to the collection and analysis of quantitative and qualitative data, and the specification and testing of theories. Special attention will be given to new methods developed to study online content, the Internet and social media (e.g., online flow, audiences, virality and impact). The course covers the logic of scientific inquiry and various research techniques such as experimentation, scientific sampling, survey research, field methods, archival data, and quantitative analysis that are commonly used by researchers in economics, education, political science, psychology, and sociology. This is not a statistics or quantitative methods class, and there will be no systematic instruction in the use of statistical software, or other quantitative analysis of data. Students seeking training in social statistics should take *Statistics for the Social and Behavioral Sciences*.

*Prerequisite: None.*

*This course satisfies: Major: Social Science Methods.*

SOCS-SHU 150

### **Introduction to Comparative Politics**

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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 question 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.*

*This course satisfies: Core Curriculum: SSPC; Major: Social Science Foundation.*

SOCS-SHU 160

### **Introduction to International Politics**

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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.*

*This course satisfies: Core Curriculum: SSPC; Major: Social Science Foundation.*

**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.

**Statistics for the Behavioral and Social 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.*

*This course satisfies: Major: Social Science Methods.*

**Poverty and Inequality Around the Globe**

This course is designed to understand more formally and rigorously the causes and consequences of high and rising poverty and inequality around the globe, which is central to our preparation as global citizens. Globalization appears to be one of the major reasons to contributing the ever higher incomes of the top 1% in the U.S., for example, even as it lifts hundreds of millions of workers in Asia out of poverty. The overarching goals of this course are that students learn about poverty and inequality in both the poor and rich countries and why it matters to everyone. Students will learn the ways in which poverty and inequality around the globe are shaped by multifaceted contexts; understand the ways how the rich countries (i.e., US and UK) address their own poverty and inequality issues and how the major social policies and programs may affect people's well-being or quality of life; and develop beginning expertise in understanding social policy content, policy actions of agencies, and political bodies and the skills needed to influence social policy. This course is particularly concerned with philosophies of global justice and the ethics of global citizenship. Students are expected to critically reflect upon their own engagements with poverty action and their own aspirations for social change. This course emphasizes the roles that social issues, values, power, politics, the economy, discrimination, and advocacy play in the dynamic policy making and implementation environment. This course thus provides students with the basic policy related competencies and practice skills for conducting research-informed policy analysis and advocating for policy change. There are no prerequisites for the class although students should be prepared to tackle advanced social science readings and analysis.

*Prerequisite: None.*

*This course satisfies: Major: Social Science Focus.*

**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 communist 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: CCSF-SHU 101 Global Perspectives on Society.*

*This course satisfies: Core Curriculum: SSPC; Major: Social Science Focus.*

**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.

*This course satisfies: Major: Social Science New Challenges in Social Science Core.*

SOCS-SHU 245

### **Ethnographic Thinking**

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While ethnography--literally "to write" (grapho) "people" (ethnos)--has become synonymous with anthropology, it signifies a range 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.

*This course satisfies: Major: Classic Problems in Social Science Core.*

SOCS-SHU 251

### **Topics in Law & Society: Law, Culture, & Politics in China**

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We live in a world where there is an emerging global focus on governance--the ways in which government, market and civil society can be used to address public problems--both domestic and global. In Beijing as well as Washington experts now use the same global vernacular of "governance" to discuss approaches to pressing public problems. Conference goers in either place will hear terms (often in English) such as democracy, rule of law, transparency, civil society, NGO/NPO (Nongovernment organization, nonprofit organization), GDP, crisis management, environmental sustainability, and CSR (corporate social responsibility). But however flat the new common language may make the world seem to observers, the same words may have different meanings in different heads. In each country the practical meanings of such terms are shaped by what might be called different "operating systems." In its remarkable rise, China studies the experiences of the world. America may have invented modern pragmatism, but China ("black cat white cat, it does not make a difference as long as it catches mice") may now be its leading practitioner. But while China seeks to learn from the western—it seeks to modify them to "Chinese characteristics," China's own cultural values and traditions, as they have evolved over millennia.

*Prerequisite: None.*

*This course satisfies: Major: Social Science Focus.*

SOCS-SHU 272

### **The U.S. Constitution: Is It relevant to China?**

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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.*

*This course satisfies: Core Curriculum: SSPC; Major: HUMN Topic, Social Science Focus.*

SOCS-SHU 301

### **Complexity**

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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.*

*This course satisfies: Core Curriculum: STS; Major: Social Science New Challenges in Social Science Core.*

**SOCS-SHU 306**

**Pestilence: Critical Perspectives in Global Health**

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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.*

*This course satisfies: Core Curriculum: STS; Major: Social Science Focus.*

**SOCS-SHU 401**

**Social Science Capstone Seminar (2 credits)**

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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. Offered in Spring 2017.*

**SOCS-SHU 402**

**Social Science Capstone Seminar (2 credits)**

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Students complete 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.

*Prerequisite: SOCS-SHU 410, Social Science Capstone Honors Seminar. Offered in Spring 2017.*

**SOCS-SHU 410**

**Social Science Capstone Honors Seminar (2 credits)**

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This seminar introduces major honors candidates to research methods in the Social Sciences as preparation for the Honors Independent Study in the spring semester of the senior year. By the end of the course, students will have produced a well-formulated research question, methodological design, and bibliography, and will have identified a faculty supervisor for the spring semester independent study.

*Open only to seniors who have been admitted to honors candidacy in Social Science. Offered online in Fall 2016.*

**SOCS-SHU 411**

**Social Science Honors Independent Study (4 credits)**

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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. Offered in spring 2017.*

**SOCS-SHU 997**

**Independent Study**

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**PSYC-SHU 101**

**Introduction to Psychology**

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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.*

*This course satisfies: Core Curriculum: ED; Major: Social Science Foundational.*

**PSYC-SHU 329**

**Parenting and Culture**

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This course is designed to expose upper-level students to the complexities of parenting across

the lifespan and across cultures, with special emphasis on the bi-directional and systemic nature of the parent-child relationship. It covers the fundamental issues and special topics in parent child relationships, including parenting views and practice across socio-cultural groups, discussion of similarities and differences in parenting around the globe, how parenting changes over the life course of the child, and how parenting shapes children's development. The course also touches on differences between mothering and fathering.

*Prerequisite: PSYC-SHU 101 Introduction to Psychology.*

*This course satisfies: Major: Social Science Focus.*

# Self-Designed Honors

SDHM-SHU 410

## **Self-Designed Honors Major Capstone Seminar (2 credits)**

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This seminar introduces self-designed honors majors to research methods in preparation for the Capstone Honors Independent Study in the spring semester of the senior year. By the end of the course, students will have produced a well-formulated research question, methodological design, and bibliography.

*Open only to seniors who have been approved as self-designed honors majors. Offered online in fall 2016.*

SDHM-SHU 411

## **Self-Designed Honors Major Independent Study. (4 credits)**

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Students approved for the self-designed honors major conduct independent research under the supervision of their faculty mentors. Open only to seniors who have been approved as self-designed honors majors.

*Prerequisite: SDHM-SHU 410, Self-Designed Capstone Honors Seminar. Offered in Spring 2017.*

# 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.

## LEADERSHIP

---

**YU LIZHONG**

Chancellor

Ph.D. in Geography, the University of Liverpool

**JEFFREY S LEHMAN**

Vice Chancellor

J.D. University of Michigan Law School

**JOANNA WALEY-COHEN**

Provost, Julius Silver Professor of History Ph.D. in History, Yale University

**EITAN ZEMEL**

Associate Vice Chancellor for Strategy

Ph.D. in Operations Research, Carnegie Mellon University

**XIAO JING WANG**

Associate Vice Chancellor for Research

Ph.D. in Physics, the University of Brussels

**MARIA E. MONToya**

Dean of Arts and Science

Ph.D. in History, Yale University

**KEITH ROSS**

Dean of Engineering and Computer Science

Ph.D. in Computer, Information, and Control Engineering, University of Michigan

**CHARLENE VISCONTI**

Dean of Students

J.D., New York University

**FANGHUA LIN**

Associate Provost for Quantitative Disciplines

Ph.D., University of Minnesota, Co-Director of Math Institute

**YUXIN CHEN**

Dean of Business

Ph.D. in Marketing, Washington University in St. Louis

**NICHOLAS GEACINTOV**

Vice Dean of Science

Ph.D., Syracuse University and the SUNY College of Environmental Sciences and Forestry

**ZHONGJIAN ZHAO**

Associate Dean of Arts and Science

Ph.D. in Education, East China Normal University

## FACULTY

---

**Yehuda Band**

Visiting Professor of Physics

Ph.D. in Physics, The University of Chicago

**Amy Becker**

Senior Lecturer

M.A. in Journalism, New York University

**Matthew Belanger**

Assistant Professor of Interactive Media Arts

M.P.S. in Interactive Telecommunications, New York University

**Jinghong Bi**

Chinese Language Instructor

M.A. in Linguistics and Applied Linguistics, East China Normal University

**Nicolas Broutin**

Visiting Assistant Professor of Mathematics

Ph.D. in Computer Science, McGill University

**Timothy Byrnes**

Assistant Professor of Physics

Ph.D. in Physics, University of New South Wales

**Xinying Cai**

Assistant Professor of Neural and Cognitive Sciences

Ph.D. in Bioengineering, Arizona State University

**Nan Cao**

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Ph.D. in Computer Science, Hong Kong University of Science and Technology

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M.A. in TESOL, School for International Training

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**Guodong Chen**

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**Jian Chen**

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**Meiling Chen**

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**Yuxin Chen (陈宇新)**

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**Foong Soon Cheong**

Assistant Professor of Practice of Accounting

Ph.D. in Management, Yale University

**Herming Chiueh**

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**Lily Hope Chumley**

Affiliated Professor

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**Duane Corps**

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**Lixian Cui**

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Ph.D. in Human Development and Family Studies, Oklahoma State University

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M.A. in Applied Linguistics & ESL, Georgia State University

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**Weili Ding**

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**Francisco Carlos Drohojowski**

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M.B.A., American Graduate School of International Management

**Barbara Edelstein-Zhang**

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M.F.A. in Art/Sculpture

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**Gang Fang (方刚)**

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**William Faris**

Visiting Professor

Ph.D. in Mathematics, Princeton University

**Xiaoyang Feng**

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**Scott Fitzgerald**  
Assistant Arts Professor  
M.P.S. in Interactive Design, New York University

**Koresh Galil**  
Visiting Professor  
Ph.D. in Economics, Tel Aviv University

**Pei Gao**  
Assistant Professor of Practice  
Ph.D. in Economic History, London School of Economics and Political Science

**Eliot Gattegno**  
Associate Professor of Practice of Business and Arts  
Ph.D., University of California, San Diego

**Alexander Geppert**  
Associate Professor of European History  
Ph.D. in History and Civilization, European University Institute

**Michele Geraci**  
Adjunct Faculty  
Ph.D. in Economics, University of Nottingham

**Ernest Gilman**  
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Ph.D. in Biology

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Ph.D. in Political Science, University of Michigan

**Heather Lee**  
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Ph.D. in American Studies, Brown University

**Jeffrey Lee**  
Visiting Assistant Professor  
Ph.D. in Marketing, Harvard University

**Leksa Lee**  
Visiting Assistant Professor  
Ph.D. in Anthropology, University of California, Irvine (expected 16)

**Raphaël Lefevere**  
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**Raoul Normand**

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<b>John Sterling</b> Affiliated Professor M.S. in Computer Science, Courant Institute, New York University	<b>Bradley Weslake</b> Associate Professor of Philosophy Ph.D. in Philosophy, University of Sydney
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<b>Promethee Spathis</b> Visiting Associate Professor Ph.D. in Computer Science, Universite Pierre et Marie Curie	<b>Paul Woolridge</b> Lecturer of Writing Ph.D. in English Literature, University of Cambridge
<b>Marti Subrahmanyam</b> Affiliated Professor Ph.D. in Finance and Economics, Massachusetts Institute of Technology	<b>Ping Xiao</b> Visiting Assistant Professor of Marketing Ph.D. in Marketing, Washington University in Saint Louis
<b>Tim Szetela</b> Assistant Arts Professor M.P.S. in Interactive Design, New York University	<b>Qingwen Xu</b> Ph.D. in Social Work, the University of Denver Affiliated Professor
<b>Francesca Tarocco</b> Assistant Professor of Chinese Religious and Visual Culture Ph.D. in Chinese History, School of Oriental and African Studies	<b>Arthur Larry Wright</b> Visiting Professor of Mathematics Ph.D. in Mathematics, University of California at Irvine
<b>Pierre Tarres</b> Visiting Professor Ph.D. in Mathematics, Ecole Normale Supérieure Cachan	<b>Fan Yang</b> Visiting Assistant Professor of Practice Ph.D. in Economics, University of Missouri, Columbia
<b>Xing Tian (田兴)</b> Assistant Professor of Neural and Cognitive Sciences Ph.D. in Neuroscience and Cognitive Science, University of Maryland, College Park	<b>Tom Yin</b> Visiting Professor Ph.D. in Neural Science, University of Michigan
<b>Jennifer Tomscha</b> Lecturer of Writing M.F.A. in Creative Writing, Fiction, University of Michigan	<b>Danyang Yu</b> Associate Professor of Practice Ph.D. in Biology, New York University
<b>Roopa Vasudevan</b> Visiting Assistant Arts Professor M.P.S. in Interactive Telecommunications Program (ITP), New York University	<b>David Yu</b> Adjunct Professor of Finance M.B.A. in Finance with general management, New York University's Stern School of Business
<b>Joanna Waley-Cohen</b> Provost, Julius Silver Professor of History Ph.D. in History, Yale University	<b>Jie Yuan</b> Instructor of Chinese Language M.A. in Chinese Language, East China Normal University
	<b>Rodrigo Zeidan</b> Visiting Associate Professor of Economics Ph.D. in Economics, Federal University of Rio de Janeiro

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*Institute*

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*M.A. in Teaching Chinese as a Foreign Language, The*

*University of Iowa*

# Academic Calendar

## ORIENTATION

Aug. 19	Fri	Freshman Move In Day
Aug. 20	Sat	First Day of Orientation and Convocation
Aug. 25	Thu	Returning/Study Away Move In Day
Aug. 26	Fri	First Day of Orientation Returning/Study Away

## FALL SEMESTER

Aug. 29	Mon	Fall Semester Classes Begin
Sept. 9	Fri	First Day of Fall 1st 7-week Classes
Thu, Sept. 15 - Fri, Sept. 16		Add/Drop Course Deadline for Fall full-term Classes
Sept. 18	Sun	Mid-Autumn Festival Holiday
Sept. 23	Fri	Legislative Day: Classes meet on a Thursday schedule
Mon, Oct. 3 - Fri, Oct. 7		Course Withdrawal Deadline for 1st 7-week Classes
Oct. 9	Sun	National Day Holiday: Fall Break
Oct. 21	Fri	Legislative Day:
Oct. 24	Mon	Classes meet on a Friday schedule
Oct. 28	Fri	Last Day of 1st 7-week Classes
Oct. 28	Fri	First Day of 2nd 7-week Classes
Nov. 4	Fri	Midterm Grades Deadline (Fall full-term Courses)
Nov. 4	Fri	Add and Drop Course Deadline for 2nd 7-week Classes
Nov. 14	Mon	Course Withdrawal Deadline for Fall full-term Classes
Nov. 18	Fri	Grading Option (P/F) Deadline
Thu, Nov. 24 - Fri, Nov. 25		Registration for Spring Semester 2017 Begins (tentative)
Dec. 12	Mon	Course Withdrawal Deadline - 2nd 7-week Classes
Dec. 13	Tue	Thanksgiving Holiday
Dec. 14	Wed	Legislative Day: Classes meet on a Thursday schedule
Thu, Dec. 15 - Wed, Dec. 21		Legislative Day: Classes meet on a Friday schedule
		Reading Day
		Final Exam

Final Grades Deadline   Grades are due 72 hours after the scheduled final exam date.

## WINTER BREAK

Thu, Dec. 22 - Sun, Feb. 5	No classes
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## OPTIONAL JANUARY TERM

Jan. 3	Tue	January Term Classes Begin
Jan. 20	Fri	Last Day of January Term Classes

# 2016-2017

## SPRING SEMESTER

Feb. 2	Thu	Study Away Students Move In Day
Feb. 3	Fri	Study Away Student Orientation
Feb. 6	Mon	Spring Semester Classes Begin
		First Day of Fall 1st 7-week Classes
Feb. 10	Fri	Add and Drop Course Deadline for 1st 7-week Classes
Feb. 17	Fri	Add and Drop Course Deadline for Spring full-term Classes
Mar. 10	Fri	Course Withdrawal Deadline for 1st 7-week Classes
Mar. 24	Fri	Last Day of 1st 7-week Classes
Mar. 27	Mon	2nd 7-week Classes Begin
Mar. 31	Fri	Add and Drop Course Deadline for 2nd 7-week Classes
		Midterm Grades Deadline
Mon, Apr. 3 - Fri, Apr. 7		Spring Recess (includes Qingming Holiday)
Apr. 14	Fri	Course Withdrawal Deadline for Spring full term Classes
		Grading Option (P/F) Deadline
Apr. 24	Mon	Registration for Fall Semester 2017 Begins (Tentative)
Apr. 28	Fri	Course Withdrawal Deadline for 2nd 7-week Classes
May 1	Mon	China Labor Day Holiday
May 7	Sun	Legislative Day: Classes meet on a Monday Schedule
May 19	Fri	Last Day of Spring Semester Classes
		Last Day of 2nd 7-week Classes
May 20	Sat	Reading Day
Mon, May 22 - Fri, May 26		Final Exams
May 28	Sun	Commencement

Final Grades Deadline    Grades are due 72 hours after the scheduled final exam date.

## OPTIONAL SUMMER SEMESTER

### SUMMER SESSION I

May 29	Mon	Summer Session I Classes Begin
May 30	Tue	Dragon Boat Festival
Jun. 2	Fri	Add/Drop Course Deadline for Summer Session I Classes
Jun. 16	Fri	Course Withdrawal Deadline for Summer Session I Classes
Jul. 7	Fri	Last Day of Summer Session I Classes

### SUMMER SESSION II

Jul. 10	Mon	Summer Session II Classes Begin
Jul. 14	Fri	Add/Drop Course Deadline for Summer Session II Classes
Jul. 28	Fri	Course Withdrawal Deadline for Summer Session II Classes
Aug. 18	Fri	Last Day of Summer Session II Classes

