2007-2009 Undergraduate Bulletin Supplement

Changes, Additions, and Deletions to Course Offerings

The courses below have been added to the curriculum or have been changed in some way since the publication of the 2007-2009 Undergraduate Bulletin. If a course has been revised, only the revisions to the course information in the Bulletin are included here, highlighted in red. If prerequisite(s) have been modified, the modified prerequisite(s) are highlighted in red. Courses are arranged alphabetically by course designator. A course listed under a given semester heading will not necessarily be offered during that semester.

This list is continually being updated. Twice during the year (roughly November 1 and April 1) the entire Bulletin (including this Supplement) is archived. That is, a "snapshot" of the Bulletin is taken and saved for reference. These dated archives serve as official records of the Bulletin as it changes semester by semester.

A B C E G H I J M P R S T W

Spring 2008

Fall 2007
AAS 338-J Contemporary India: History, Politics, and Diplomacy (Post-1947)
Study of the forces shaping India's post-independence history, domestic politics, and foreign diplomacy. As the world's largest democracy, second most populous nation, and the world's fastest growing economy, its impact on the international scene in the coming years will be carefully analyzed. The course, taught by a former Ambassador, will also focus on emerging trends in Indo-U.S. relations and impact of the Indian diaspora. This course is offered as both AAS 338 and POL 338. Prerequisites: AAS 201 or POL 101; U3 or U4 standing 3 credits

AAS 339-J Contemporary China: History, Politics, and Diplomacy (Post-1949)
This course will analyze the evolution of major events in contemporary China following the communist revolution that led to the establishment of the People’s Republic in 1949. The course, taught by a former Ambassador, will examine major political, economic, and social developments in light of both their general global impact and their particular relationship with the U.S. This course is offered as both AAS 339 and POL 339. Prerequisites: AAS 219 or POL 101; U3 or U4 standing 3 credits

ANT 104 Ethnoarchaeology
Ethnoarchaeology uses observations of present-day peoples to inform archaeological inquiry, based on analogies between past and present. Advanced undergraduate and graduate students will develop their ability to construct and evaluate such analogies. Using this skill, they will then explore ways in which ethnoarchaeological data contribute to archaeological research: hypothesis building, survey and excavation strategies, interpretation of site and artifact data, and understanding the causes and processes of human behavioral change. In addition to seminar discussions of theoretical issues and case studies, the course incorporates practical exercises in the surrounding community. Prerequisite: ANT 104; ANT major or minor 3 credits

ANT 208 Introduction to Digital Media Technology
A survey and hands-on introduction to digital media. Students are introduced to the practical, conceptual, and historical use of computers and related imaging tools in the visual arts through lecture, labs, readings, and project critiques. This course serves as preparation for further study in electronic media and as an opportunity for students in the arts to gain basic computer literacy. Students will develop strategies for combining images and text. Students will then distribute these works on the web. Emphasis is on the conceptual and artistic potential of the technology. No prior computer experience is required. This course is offered as MUS 208, ARS 208, and THR 208. Prerequisite: One 200-level ARS, MUS or THR course 3 credits

ARS 225 Introductory Digital Art
A survey and hands-on introduction to digital media. Students are introduced to the practical, conceptual, and historical use of computers and related imaging tools in the visual arts through lecture, labs, readings, and project critiques. This course serves as preparation for further study in electronic media and as an opportunity for students in the arts to gain basic computer literacy. Students will develop strategies for combining images and text. Students will then distribute these works on the web. Emphasis is on the conceptual and artistic potential of the technology. No prior computer experience is required. Pre or Corequisite: ARS 154 or ARS 205 3 credits

ARS 336-G Digital Visual Culture
An investigation of historical and theoretical issues in digital visual culture. Students will build the critical literacy necessary to interrogate the images, text and sound of contemporary digital culture. Emphasis is on examining the history of information technologies, their theoretical implications, and cultural ramifications. Prerequisite: U3 or U4 status; ARS/MUS/THR 208 or ARS 225 or ARS 205 or CCS 101 3 credits

ARS 352 Theory and Practice of Digital Art: Print
An examination of the theories and techniques of computer and electronic media through lecture, labs, readings and project critiques. Digital imaging techniques are combined with layout programs to create image centered works, such as artist’s books, individual prints, multiples and installations. Hybrid combinations of digital and traditional photography and print-making techniques are explored. Prerequisite: One ARS, MUS or THR course; familiarity with the use of computers Pre- or Corequisite: ARS/MUS/THR 208 or ARS/MUS/THR 317 or ARS 225 3 credits

ARS 362 Theory and Practice of Digital Arts: Video
An introduction to the practice, theory, and history of video within art and independent media through labs, lecture, readings, and project critiques. Video production includes shooting video and editing. Emphasis is on creative content, experimentation and critical thinking. Students will work with computer based
edits and composing tools to create several short assignments and two significant projects using one or more techniques. 

**Prerequisite:** ARS/MUS/THR 208 or ARS 225  
3 credits

**ARS 327-H Theory and Practice of Digital Arts: Web Art, Design, and Culture**  
An investigation of the practical, historical, and theoretical issues related to art and design on the internet. Students work with images, text, sound, and animation on the web to create web-based artworks, design a portfolio or other information-based site, and write a hypertext research paper. Emphasis is on creative use of web technologies and examining the cultural implications of new technologies. Students will work on Macintoshes in the Eimedia SINC site. 

**Prerequisite:** ARS/MUS/THR 208 or AAS 225  
3 credits

**ARS 328 Theory and Practice of Digital Arts: Animation**  
An investigation into the practice, theory, and history of animation within art and independent media through labs, lecture, readings, and project critiques. Animation production will cover computer based stop-motion as well as some 2D and 3D computer animation. Emphasis is on creative content, experimentation, and critical thinking. Students work with computer based 2D and 3D animation tools to create several short assignments and one significant project using one or more techniques. 

**Prerequisite:** U3 or U4 standing; ARS/MUS/THR 208 or ARS 225  
3 credits

**ARS 341 Life Sound Design**  
An investigation into the scientific, formal and artistic qualities of sound developed for students who may or may not have had formal musical training. Students will write reviews of sound pieces, create film or game soundtracks, and create sound-based art works in response to course content, and write a paper on acoustic or psycho-acoustic phenomena. Emphasis is on studio production techniques, history of sound art and basic acoustics. Students will work on Macintoshes in the SINC site and LTA. This course is offered as ARS 341, MUS 341, and THR 341. 

**Prerequisite:** One 200level ARS, CSE, ISE, MUS, or THR course  
3 credits

**ARS 390-G Topics in Studio Art**  
Semester supplements to this Bulletin contain specific descriptions when course is offered. May be repeated for credit as the topic changes. Not for major credit. 

**Prerequisite:** ARS 154 or ARS 205  
3 credits

**ARS 425 Advanced Digital Arts**  
An advanced investigation of the history, contemporary practice, and techniques of digital/electronic media arts through lecture, labs, readings, project critiques, and exhibition. Student directed projects may involve advanced media techniques, such as imaging, video, sound, 2D/3D animation, performance, and interactivity that take form as prints, movies on DVD, sculptures/installations, and websites. May be repeated once. 

**Prerequisites:** ARS/MUS/THR 208 or ARS 225; permission of instructor after interview and review of portfolio  
3 credits

**BIO 319 Landscape Ecology Laboratory**  
A computer lab course focusing on spatial concepts, methods, and tools for addressing ecological and environmental problems. The course will be based on fundamental concepts in ecology and environmental science and extend that knowledge, as well as teaching technical skills, including the use of geographic information systems (GIS) software, image processing, spatially explicit modeling, and spatial statistics. The lab exercises will introduce a variety of spatial approaches addressing problems in environmental protection, ecology, toxicology, natural resource management, conservation biology, and wildlife management. 

**Pre- or Corequisite:** MATH 269  
Advisory Prerequisite: MATH 269 or higher  
3 credits

**BIO 361 Biochemistry I**  
First course of a two-semester survey of the major chemical constituents of the cell, including carbohydrates, lipids, and proteins. Emphasis is on enzyme structure, enzyme kinetics, reaction mechanisms, and metabolic pathways. 

**Prerequisites:** C or higher in BIO 202 and C or higher in CHE 332 or CHE 333; permission of instructor  
3 credits

**BIO 362 Biochemistry II**  
Second course of a two-semester survey, BIO 362 treats nucleic acid structure, replication, and transcription, both in vivo and in vitro. The machinery of protein synthesis is also covered, including amino acid activation; transfer RNA; ribosomes; the genetic code; and peptide chain initiation, elongation, and termination. 

**Prerequisites:** C or higher in BIO 361  
3 credits

**BIO 371 Restoration of Aquatic Ecosystems**  
A field and laboratory course designed to introduce students to field methods in assessing the long-term effects of pollution and restoration of aquatic and marsh systems. Students will work in teams to collaborate on measuring exchange of pollutants between a restored Superfund site and adjacent areas, the long-term effects of ecological restoration, habitat assessment, aquatic community structure in restored and adjacent systems, and long-term evolutionary effects on aquatic pollutants. Other restoration systems will be compared. 

**Prerequisites:** BIO 291, 292, 294, 295  
3 credits

**BME 212 Biomedical Engineering Research Fundamentals**  
Introduction to data collection and analysis in the context of biophysical measurements commonly used by bioengineers. Statistical measures, hypothesis testing, linear regression, and analysis of variance are introduced in an application-oriented manner. Data collection methods using various instruments, A/D boards, and PCs as well as LabView, a powerful data collection computer package. Not for credit in addition to the discontinued BME 300. 

**Prerequisites:** BME major, BME 100 and MEC 290  
Pre- or Corequisite: MEC 260; BIO 202 or 203  
3 credits

**BME 300 Writing in Biomedical Engineering**  
See Requirements for the Major in Biomedical Engineering, Upper-Division Writing Requirement. 

**Prerequisites:** WRT 102; U3 or U4 standing; BME major  
Corequisite: Any upper division BME course and permission of the course instructor or Undergraduate Program Director  
SU grading

**BME 311 Fundamentals of Macro to Molecular Bioimaging**  
This course will cover the fundamentals of modern imaging technologies, including techniques and applications within medicine and biomedical research. The course will also introduce concepts in molecular imaging with the emphasis on the relations between imaging technologies and the design of target specific probes as well as unique challenges in the design of probes of each modality: specificity, delivery, and amplification strategies. The course includes visits to clinical sites. 

**Prerequisites:** BME 212  
3 credits

**BME 400 Research and Nanotechnology**  
This is the capstone course for the minor in Nanotechnology Studies (NTS). Students learn primary aspects of the professional research enterprise through writing a journal-quality manuscript and making professional presentations on their independent research (490) projects in a formal symposium setting. Students will also learn how to construct a grant proposal (a typical NSF graduate fellowship proposal), methods to search for research/fellowship funding, and key factors in being a research mentor. 

**Prerequisites:** BME 213; at least one semester of independent research (490 course)  
3 credits

**BME 430 Engineering Approaches to Drug and Gene-Delivery**  
Introduction to the application of engineering principles and biological considerations in designing drug delivery systems for medical uses. The concept of biocompatibility and its implications in formulating controlled release devices are illustrated. Emphasis on the use of biodegradable materials to design drug delivery systems for site-specific applications. 

**Prerequisites:** AMS 161 or MAT 132 or 142 or 171; BIO 202 or 203; BME 304  
3 credits

**CCS 101-B Introduction to Cinema and Cultural Studies**  
A reading of Classical Texts alongside their representations in the cinema. We will pay special attention to how film theory. We will pay special attention to race, gender, class, ideology, and censorship. Since this is the first course in our Cinema and Cultural Studies major, primary emphasis will be placed on film. 

**Prerequisites:** CCS 101-A  
3 credits

**CCS 312-I Cinema and the Ancient World**  
A reading of Classical Texts alongside their representation in the cinema. Readings will include classical literature, contemporary treatments of the classics, and film theory. We will pay special attention to how filmmakers are much more attentive to ideas from the present than from the past when they construct their films around ancient texts.

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SUPPLEMENT: COURSES

Fall 2008: updates since Spring 2007 are in red

Prerequisite: U3 or U4 standing; completion of DEC B
Advisory prerequisite: CCS 101, HUM 201, or HUM 202
3 credits

CCS 313-H Television Studies
This course maps the social, cultural, and technological changes that the medium/media of television has experienced from its early ties to radio models of broadcast to the changes in reception wrought by the iPod.
Prerequisite: U3 or U4 standing; 1 DEC F course
Advisory prerequisite: CCS 101, HUM 201, or HUM 202
3 credits

CCS 390-J Latin American Cinema
This course studies a variety of aspects connected with the production, distribution, and reception of cinema in Latin America. Course includes a representa tive sample of films produced in everyone of the major Latin American film producing nations (Argentina, Brazil, Mexico, and Cuba). It will also review a short selection of minor Latin American cinematographies and of indigenous film productions. All films will always be studied within the social, political and artis tic context in which these works are produced.
Readings include works by Latin American film directors and theorists that have contributed to the study of the films in the region and of film as a world art form.
Prerequisite: U3 or U4 standing; completion of DEC B
Advisory prerequisite: CCS 101, HUM 201, or HUM 202
3 credits

CCS 391-J Contemporary African Cinema and Cultural Studies
This course will examine African traditions of graphic writing in their theoretical, literary, and cinematicographic application. The emphasis will be placed on the visual arts and their political significance in contemporary African debates, and of particular interest will be the production of contemporary artists, the strategies they use, and their impact in both global and local discussions. The artifacts will additionally serve as tools to investigate the modalities of a contemporary African self-understanding through the lenses of images and graphic design.
Prerequisite: U3 or U4 standing; completion of DEC B
Advisory prerequisite: CCS 101, HUM 201, or HUM 202
3 credits

CCS 392-K American Cinema and Cultural Studies
The history of cinema as art has been directly linked to the evolution and increment of multicultural societies. This course studies the ways in which film has either included or excluded representations of multiculturalism in the United States, and how films have discussed and participated in the different debates about cultural, ethnic, racial, sexual, gender and class difference within the United States. The course studies theoretical concepts such as difference, ethnicity, migration, incorporation and cultural contact zones.
Prerequisite: U3 or U4 standing; completion of DEC B
Advisory prerequisite: CCS 101, HUM 201, or HUM 202
3 credits

CCS 393-I European Cinema and Cultural Studies
A comparative study of European cinema in a historical, cultural, and political context. The course will concentrate on those films and movements that achieved a major impact in their country of origin as well as received international critical attention.
Prerequisite: U3 or U4 standing; completion of DEC B
Advisory prerequisite: CCS 101, HUM 201, or HUM 202
3 credits

CCS 394-J Asian Cinema and Cultural Studies
This course is an overview of the history of Asian cinemas, with an emphasis on the geopolitical study of China, Hong Kong, India, Japan, and Taiwan. By focusing on issues relating to nationhood, cultural production, gender relations, and the impact of colonialism and globalization, the course will explore the continuities, and/or particularities between the various cinemas, based on a set of overlapping themes and cultural aesthetics.
Prerequisite: U3 or U4 standing; completion of DEC B
Advisory prerequisite: CCS 101, HUM 201, or HUM 202
3 credits

CCS 395-H Digital Cultural Studies
This course critically examines how digital media and technology assist in the redesign of our political, economic, social, and cultural worlds. Special attention is paid to theories of digital media and historical developments of new technologies, as well as cultural practices with emergent technology.
Prerequisite: U3 or U4 standing; 1 DEC F course
Advisory prerequisite: CCS 101, HUM 201, or HUM 202
3 credits

CHI

Chinese Language

CHI 410 Business Chinese
A course designed for students who wish to expand their Chinese communication skills in a business context and understand socio-cultural situations as well as socio-cultural values in China. Upon completing this course, students will be able to hold conversations with correct business vocabulary and with culturally appropriate manners, read authentic materials related to business and economics in China, and write business correspondence in proper styles and formats.
Prerequisite: CHI 312 or equivalent
3 credits

CLS

Classics

CLT 220-I The Classical Tradition
The literature of Greece and Rome has had a profound impact on the West in terms of Philosophy, Literature, Political Theory, and Art. The course will explore the writings of Greece and Rome and show how they affected Western literature and thought. Authors will include Homer and Hesiod, and Greek tragedians Thucydides, Virgil, and Ovid.
3 credits

CLT 335-G Interdisciplinary Study of Film
An inquiry into the aesthetics, history, and theory of film as it relates principally to literature but also to disciplines such as art, music, psychology, and cultural history. Semester Supplements to this Bulletin contain description when course is offered. May be repeated as the topic changes.
Prerequisite: Completion of DEC D
Advisory Prerequisites: CCS 101, HUM 201, or HUM 202
3 credits

CLT 391-J African Contemporary Literature
Intensive study of multiple African traditions through their history, culture, and literature. The course will insist particularly on novels that address the shifting boundaries of the African continent, both in terms of ideology and of geo-political reality. As such, Ancient Egyptian texts will be confronted with literary productions from Classical Romance culture, and with slave narratives, to address the way through which literature is influenced by the general politics of mobility.
Prerequisite: U3 or U4 standing; completion of DEC B
3 credits

CLT 392-K Multicultural Comparative Literature
This course will examine the various strategies deployed by U.S. writers to incorporate languages and dialects other than English and non-U.S.P. cultures into their literary work. In their different ways, these authors celebrate the intellectual diversity of the U.S. and resist the temptations of monolingual cultural aesthetic.
Prerequisites: U3 or U4 status; completion of DEC B
Advisory Prerequisite: CLT 301
3 credits

CLT 393-I European Comparative Literature
European literature developed through constant interaction across frontiers rather than through discrete national histories. Poetry, fiction, and drama in every nation were heavily influenced by those of other nations, which they helped shape in their turn. The course examines this reciprocal impact on different genres in different countries across the centuries.
Prerequisites: U3 or U4 status; completion of DEC B
3 credits

CLT 394-J Asian Comparative Literature
This course is an overview of the development of Asian literatures and thoughts, spanning across the early 20th century to the present. By covering short stories, novels, and poems from Asian traditions, such as China, Taiwan, Japan, and Korea, the course will examine how modernity, coloniality, and war contribute to the shaping of national, and cultural identities. A comparative study of narratives from the various traditions will be engaged to explore the influence, and implications of social categories such as gender, class, race, and ethnicity.
Prerequisites: U3 or U4 status; completion of DEC B
3 credits

CME

Chemical and Molecular Engineering

CME 304 Chemical Engineering Thermodynamics I
First and second laws of thermodynamics, PVT behavior of pure substances, equations of state for gases and liquids, phase equilibria, mass and energy balances for closed and open systems, reversibility and equilibrium, application of thermodynamics to flow processes, heat effects during chemical reactions and combustion.
Prerequisites: PHY 132; CHE 132; CME 130 or ECE 111
3 credits

CME 314 Chemical Engineering Thermodynamics II
Equilibrium and the Phase Rule; VLE model and K-value correlations, chemical potential and phase equilibrium for ideal and non-ideal solutions; heat effects and...
property changes on mixing; application of equilibria to chemical reactions; Gibbs-Duhem and chemical potential or reacting systems; liquid/liquid, liquid/solid, solid/vapor, and liquid/vapor equilibria; adsorption and osmotic equilibria, steady state flow and irreversible processes. Steam power plants, internal combustion engines, refrigeration, cycle and vapor compression, liquefaction processes.

**Prerequisites:** CME major; CME 304, B- or better in CME major; PHY 132; ESG 111 or MEC 219 or CSE 260 and CSE 220

**3 credits**

**CME 315 Numerical Methods for Chemical Engineering Analysis**

Critical analysis of experimental data development of engineering models by integrating a variety of computer-based programs: (1) Executing numerical calculus and solving numerical equations using a mathematical program (Mathematica); (2) Process simulation for typical chemical engineering processes (unit operation, distillation, etc.) using a simulation program (Labview).

**Prerequisites:** CME major

**Pre- or Co-requisite:** AMS 261 or MAT 303 or MAT 305

**3 credits**

**CME 327 Molecular Modeling for Chemical Engineers**

Molecular modeling techniques and simulation of complex chemical processes. Use of Monte Carlo methods and Molecular Dynamics methods. Emphasis on the simulation and modeling of biopolymer systems.

**Prerequisites:** CME major; PHY 132; ESG 111 or MEC 122; AMS 261 or MAT 303; AMS 261 or MAT 303, CME 304, B- or better in CME 304

**3 credits**

**CME 330 Principles of Engineering for Chemical Engineers**

This course focuses on the basic principles required for functioning in an engineering environment. Includes equilibrium and dynamics of rigid bodies, analysis of simple structures, conservation of energy, vectorial kinematics, collusions, general circuit analysis, fundamentals of AC power, CAD programs, introduction to market analysis, and discussion on ethics in engineering management.

**Prerequisites:** CME major; U3 or U4 standing

**3 credits**

**CME 333 Business Economics for Engineers**

The course focuses on critical business concepts as they relate to engineering practices. Survey of general business environment and business functions, with an emphasis on ethics and law, economics, finance, and marketing. Project management of cost, risk and alternatives. Quality management: Six Sigma concept.

**3 credits**

**CME 369 Polymer Engineering**

An introductory survey of the physics, chemistry and engineering processes of polymers. Topics covered included classification of polymers, structures of polymers, morphology of polymers, thermodynamics of polymers, phase separation and phase transition of polymers, and the synthesis of polymers. Case studies of commercial polymer production and processing.

**Prerequisites:** B- or higher in CME 304 or ESG 302 or equivalent course; AMS 261 or MAT 203 or MAT 205

**3 credits**

**CME 401 Separation Technologies I**

Fundamentals of separations. Introduction to standard classical and advanced separation methods and their relative merits and limitations. Distillation, crystallization, filtration, centrifugation, absorption and stripping methods. Includes fundamentals of chromatography.

**Prerequisites:** CME major; U3 or U4 standing; CME 323

**3 credits**

**CME 402 Separation Technologies II**

Introduces separation technologies in a plant design. Principles of separation fluids, extraction and membrane separation. Packed tower design for separation and continuous operation.

**Prerequisites:** CME 401

**2 credits**

**CME 420 Chemical Engineering Laboratory IV: Senior Thesis Directed Research**

Directed laboratory research. At the end of the junior year, in consultation with an advisor, the CME student will write a 1-2 page abstract describing proposed research. This abstract must be approved by the Undergraduate Program Committee (UPC). Through work accomplished in CME 420, the student will expand the research proposal into a senior thesis written in the format of a paper in a scientific journal. The student will defend his/her thesis in front of the UPC prior to the end of the senior year. After the defense, three copies of the finished thesis must be presented to the student's advisor at least 21 days before the date of graduation. The advisor then submits the thesis for final approval to the other UPC members.

**Prerequisite:** CME 410

**2 credits**

**CSE 150 Foundations of Computer Science: Honors**

Introduction to the logical and mathematical foundations of computer science for computer science honors students. Topics include functions, relations, and sets; recursion and functional programming; basic logic; and mathematical induction and other proof techniques.

**Prerequisites:** One MAT course that satisfies DEC category C or score of level 4 on the math placement exam; admission to the Computer Science Honors Program or the Honors College or WISE or permission of the instructor

**4 credits**

**CSE 302 Professional Ethics for Computer Science**

Familiarizes students with professional practice in Information Technology. Enables them to identify ethical conflicts, their responsibilities and options, and to think through the implications of possible solutions to ethical conflicts.

**Prerequisite:** CSE 219 or CSE 260

**2 credits**

**CSE 304 Compiler Design**

Topics studied include formal description of programming languages, lexical analysis, syntax analysis, symbol tables and memory allocation, code generation, and interpreters. Students undertake a semester project that includes the design and implementation of a compiler for a language chosen by the instructor.

**Prerequisites:** CSE 219 or CSE 260, CSE 220, and CSE 303

**3 credits**

**CSE 306 Operating Systems**

Students are introduced to the structure of modern operating systems. Topics include virtual memory, resource allocation, scheduling, concurrency, and protection. The design and implementation of a simple operating system are performed.

**Prerequisites:** CSE 219 or CSE 260; CSE 220 or ESE 300

**3 credits**

**CSE 307 Principles of Programming Languages**

Presents examples of important programming languages and paradigms such as LISP, ALGOL, ADA, ML, Prolog, and C++. Students write sample programs in some of the languages studied. The languages are used to illustrate programming language constructs such as binding, binding times, data types and implementation, operations (assignment-data type, creation, pattern matching), data control, storage management, parameter passing, and operating environments. The suitability of these various languages for particular programming tasks is also covered.

**Prerequisites:** CSE 219 or CSE 260 and CSE 220

**3 credits**

**CSE 308 Software Engineering**

Introduces the basic concepts and modern tools and techniques of software engineering. Emphasizes the development of reliable and maintainable software via system requirements and specifications, software design methodologies including object-oriented design, implementation, integration, and testing; software project management; life-cycle documentation; software maintenance; and consideration of human factor issues. This course is offered as both CSE 308 and ESE 308.

**Prerequisite:** CSE 219 or CSE 260 or ESE 305

**3 credits**

**CSE 310 Data Communication and Networks**

Study of communication networks. Local area networks (LAN), integrated voice and data systems (IVDS), and wide area networks (WAN). Their topologies: bus, token passing, tree, point to point, Protocols, speed, and distance limitations: 10/100/1000BASE-T, TCP/IP, MAP/TOP, OSI. Network design and management will be studied in various environments. May not be taken by students with credit for CSE 310 or CSE 340. This course is offered as both CSE 210 and ESE 310.

**Prerequisites:** CSE 214 and 220

**Advisory Prerequisite:** AMS 310

**3 credits**

**CSE 311 Systems Administration**

This course covers practical techniques to manage information systems, also known as IT Systems Administration. Students will learn how to install computers for assorted hardware and software platforms (Windows, Unix/Linux, OS-X). Install networking equipment and configure it. Install server operating systems and configure them (e.g. web, database, mail) and configure it. Secure the network, hosts, and services, and apply system patches. Set up redundant computing services, virtual machines/services, and hardware so that services can survive some hardware/software failures. Evaluate the performance, reliability, and security of the overall system.

**Prerequisites:** CSE 214 or CSE 230 or ESE 208

**3 credits**

**CSE 315 Database Transaction Processing Systems**

Theory and practice of design for applications involv-
CSK 302 Technical Writing and Communication
A course devoted to the presentation of technical information to different audiences. Styles of writing to be covered will include grant proposals, reports, and journal articles; principles of oral presentation will include elements of design and graphics.
Prerequisite: WRT 102
3 credits

EEO 234: 331 Introduction to Semiconductor Devices
The principles of semiconductor devices. Energy bands, transport properties and generation recombination phenomena in bulk semiconductors are covered first, followed by junctions between semiconductors and metal-semiconductor. The principles of operation of diodes, transistors, light detectors, and light emitting devices based on an understanding of the character of physical phenomena in semiconductors. Provides background for subsequent courses in electronics.
Prerequisites: AMS 361 or MAT 303; PHY 127 or 132/134 or 142
3 credits

ESE 319 Introduction to Electromagnetic Fields and Waves
Fundamental experimental results of electromagnetism are developed through mathematical formulations of integral and differential equations and physical interpretation of differential Maxwell equations in free space; interaction of electromagnetic sources and fields; engineering applications: electromagnetic energy and power generation; electromagnetic fields in unbounded and lossy media; transmission loss.
Prerequisite: ESE 271
3 credits

ESE 319 Electromagnetics and Transmission Line Theory
Fundamental aspects of electromagnetics wave propagation and radiation, with application to the design of high speed digital circuits and communications systems. Topics include: solutions of Maxwell's equations for characterization of EM wave propagation in unbounded and lossy media; radiation of EM energy; guided wave propagation with emphasis on transmission line theory.
Prerequisite: ESE 271
3 credits

ESG 198 Fundamentals of Engineering Chemistry
A quantitative introduction to chemistry (stoichiometry, bonding, states of matter, equilibrium) with emphasis on topics of interest to students in engineering (metals and semiconductors; thermochimistry, electrochemistry and corrosion; polymers). Labs include an introduction to analytical techniques, electrochemistry and chemical synthesis. Both quantitative and qualitative methods are emphasized. May not be taken for credit in addition to CHE 131/133, 141/143 or 108/109.
Prerequisites: PHY 132 or 142 or 126 and 127; MAT 127 or 132 or 142 or AMS 163
1/2 credits

ESG 302 Thermodynamics of Materials
The basic laws and concepts of thermodynamics are elucidated, and the important thermodynamic relations are systematically developed with reference to the behavior of materials. The thermodynamics of solids is discussed, including the thermodynamics of solutions and the calculation of reaction-free energies and equilibria in condensed phase reactions such as phase transformations, oxidation, and diffusion.
Prerequisite: ESG 198
Pre- or Corequisite: AMS 261 or MAT 203
1/2 credits

ESG 332 Materials Science II: Electronic Properties
After a review of quantum mechanics and atomic physics, the binding energy and electronic energy levels in molecules and solids are discussed. The free-electron theory of metals is introduced and applied to the quantitative treatment of a number of electron emission effects. The band theory of solids is developed qualitatively via the Kronig-Penney model, and the transport properties of metals and semiconductors are discussed in detail. The physical principle of pn junctions, transistors, tunnel diodes, etc. is explained. Fundamentals and applications of photoconductors, lasers, magnetic materials, and superconductors are also discussed. (ESG 332 is not a prerequisite.)
Prerequisites: ESG 281 or PHY 211
Advisory Prerequisite: ESG 302 or CME 304
3 credits

ESG 440 Engineering Science Design III
Lectures by faculty members and visitors on typical design problems encountered in engineering practice. During this semester each student chooses a senior design project. A preliminary design report is required. Not counted as a technical elective. Laboratory fee required.
Prerequisites: ESG 316; ESG major; U4 standing; permission of the department
3 credits

ESM 221 Introduction to Chemistry of Solids
Introduction to the synthesis, structure, properties, and applications of solid materials. Topics include preparation and characterization of solids (introduction to X-ray diffraction), thermal decomposition, crys-
tal structure, crystal defects, and solid-state properties that influence chemical reactivity. This course is offered as both CHE 221 and ESM 221.

Prerequisites: CHE 132 or 142 or ESG 198, and CHE EST major; permission of the department.

ESG 332
Course is for students without prior PHY 122 or PHY 132 or PHY 141.

HIS 101 and U3 or U4 standing

Prerequisites: HIS 102 or HIS 104.

Advisory prerequisites: HIS 101 or HIS 296.

ESG 332
Course is for students without prior PHY 122 or PHY 132 or PHY 141.

HIS 101 and U3 or U4 standing

Prerequisites: HIS 102 or HIS 104.

Advisory prerequisites: HIS 101 or HIS 296.

ESM 369 Polymers
An introductory survey of the physics, chemistry, and engineering processes of polymers. Topics covered included classification of polymers, structures of polymers, morphology of polymers, thermodinamics of polymers, phase separation and phase transition of polymers, crystallography of polymers. Case studies of commercial polymer production and processing.

Prerequisite: ESG 332

3 credits

ESM 400 Research and Nanotechnology
This is the capstone course for the minor in Nanotechnology Studies (NTS). Students learn primary aspects of the professional research enterprise through written journal-quality manuscript and making professional presentations on their independent research (499) projects in a formal symposium setting. Students will also learn how to construct a grant proposal (a typical NSF graduate fellowship proposal), methods to search for research/fellowship funding, and key factors in being a research mentor.

Prerequisites: ESM 213; at least one semester of independent research (499 course)

3 credits

EST Technology and Society

EST 192 Introduction to Modern Engineering
Familiarizes students with systems and decision-making concepts of modern engineering and technology. The conceptual areas to be studied include an engineering approach to problem solving and design, modeling of dynamic systems, and technology assessment. The artificial heart program, solar energy technology, and building access for the handicapped are some of the socio-technological case studies to be used.

Prerequisite: Course is for students without prior engineering experience; permission of the department required

3 credits

EST 194-C Patterns of Problem Solving
A survey of techniques and methods of problem solving as developed by the engineer and applied scientist. Applications drawn from a broad range of fields. Intended for non-engineering majors.

Prerequisite: Course is for students without prior engineering or natural science experience; permission of the department required

3 credits

EST 341 Waste Treatment Technologies
This course will examine technologies such as wastewater management, solid waste disposal, and drinking water treatments that minimize the effects of human wastes. Pollution prevention will be emphasized.

3 credits

EST 400 Research and Nanotechnology
This is the capstone course for the minor in Nanotechnology Studies (NTS). Students learn primary aspects of the professional research enterprise through writing a journal-quality manuscript and making professional presentations on their independent research (499) projects in a formal symposium setting. Students will also learn how to construct a grant proposal (a typical NSF graduate fellowship proposal), methods to search for research/fellowship funding, and key factors in being a research mentor.

Prerequisite: EST 213; at least one semester of independent research (499 course)

3 credits

EST 488 Internship in Technology and Society
Participation in a private enterprise, public agency, or nonprofit institution. Students are required to submit a proposal to the department at the time of registration that included the location, immediate supervisor, and nature of the project and hours per week for the project. One mid-semester report and one end of semester report are required. May be repeated up to a limit of 12 credits but only 3 credits of EST 488 may be used for either TSM major credit or special credit.

Prerequisites: EST major; permission of the department

1-3 credits

GEO Geosciences

GEO 440 Geological Applications of Remote Sensing
An introduction to the fundamental principles of remote sensing, with emphasis on geological and environmental applications. Discussion of the physical basis for remote sensing techniques. Survey of commonly used sensors and image analysis methods in earth sciences. Use of remotely sensed data in geographic information systems. Participants gain practical experience in geologic analysis using satellite imagery.

Prerequisites: GEO 102 or GEO 122
Advisory Prerequisites: PHY 122 or PHY 132 or PHY 142 or PHY 126,127

3 credits

HIS History

HIS 202-I Ancient Greece
Basic features of modern life can be traced back to the people of ancient Greece: democracy, philosophy, theater, and more all began among the ancient Hellenes. Who were these people? What enabled them to achieve so much, and why has their influence lasted so long? This course will try to answer these questions.

3 credits

HIS 203-I Ancient Rome
Important features of modern culture, the legal and religious foundations of our heritage, were shaped by the people of ancient Rome. How could the inhabitants of one city achieve so much, and why has their influence lasted so long? This course will try to answer these questions.

3 credits

HIS 302-H Environmental History in Global Perspective
An exploration of human-caused transformations in natural environments and in ideas about nature from prehistory to the present. Examining topics from agriculture and deforestation in classical antiquity to the Columbian encounter, from problems of environmental management in imperial India to the emergence of environmentalism as a global movement today, the course focuses on case studies from several regions, including the Mediterranean, the Caribbean, New England, and South Asia.

Prerequisite: U3 or U4 standing; 1 DEC E course

3 credits

HIS 303-I The Crusades and Medieval Society
This course examines the various medieval military conflicts known collectively as The Crusades. We will investigate specific episodes such as the Latin conquest of Jerusalem, the Children’s Crusade, the Shepherds’ Crusade, and the Albigensian Crusade. We will also explore such issues as the origins of the idea of crusade, the social developments underlying the creation and crusading culture and propaganda, the European encounter with the Muslim world, and the long term effects of the crusades on European society, politics, culture, and economy.

Prerequisites: U3 or U4 standing

3 credits

HIS 304-I Religion, Magic and Witchcraft in Early Modern Europe
An exploration of the ways in which, from the late Middle Ages through the Renaissance and Reform, the Enlightenment, Europe struggled to define their identity and beliefs. The course will investigate such topics as medieval reactions to magic and heresy, the rise of the witch hunts, the split-up of Christendom into warring Catholic and Protestant empires, and the emergence of modern ideas of skepticism and toleration.

Prerequisite: HIS 101 or HIS 296

3 credits

HIS 305-I Victorian Britain
This course explains the social, cultural and political history of Britain in the nineteenth century. It pays particular attention to the impact of empire, industrialization and major constitutional and revolution on domestic politics, social attitudes and intellectual and cultural life in Britain. Topics to be explored include industrialization and class; Reform Acts; the gospel of work; the condition of England; urban anthropology and the discovery of poverty; the cult of true womanhood, feminism and the public sphere; the impact of the Indian Mutiny of 1857; Africa and the Victorians; the regime of sexuality; Jack the Ripper and the others within. We explore these issues through lectures, reading, films, discussion exams and essays.

Prerequisite: HIS 101 or U3 or U4 standing

3 credits

HIS 306-I Post-1945 Britain: Postcolonial Disruptions
This course on post-1945 Britain will examine the ‘great events’ of the post World War period and the patterns of social, economic, and political change through the lens of British experience. In particular, we will attend to the impact of decolonization on issues of race, class and gender within British domestic culture. The second half of the twentieth century marked the successes and failures of the twinned projects of socialism and decolonization, while also producing new kinds of mass cultural exports that continue to shape global culture. These narratives of changing configurations of empire, class, race, gender and politics are the subject of this course.

Prerequisite: HIS 102 and U3 or U4 standing

3 credits

HIS 308-I Britain and France in the Age of Revolution
This course examines the social, intellectual, cultural and political life of Britain, France and their overseas colonies from the death of the Sun King to the Battle of Waterloo. We will examine the sources and consequences of related developments, focusing on the structure of the ancient regime states; the impact of war and empire; women, race and public culture in the Enlightenment; Paris and London as global cities; exoticism and exploration; the emergence of popular radicalisms, and the transatlantic circuits of revolu-
HIS 316 F The Healer and the Witch in History
Female healers from the Middle Ages to the present, their association with "diabolic" powers and the theoretical development of a methodology for their recognition and control and how they related to their society. The course also treats the development of organized medicine and its impact upon females and witchcraft. Cross-listed in both HUF 316 and WST 316.
Prerequisite: U3 or U4 standing
Advisory prerequisite: One HIS or WST course
3 credits

HIS 320-I European Natural Law to Global Human Rights
An examination of the historical evolution of the concept of human rights, from its origin in European natural law philosophy (including the ideas of Locke and Kant), through European-led human rights campaigns, into the postwar constitutions of former European colonies and its incorporation into the contemporary international legal regime. The time frame ranges from the origin of classical rights philosophy in the 17th and 18th centuries to the present, and the geographic focus is Europe and its former colonies.
Prerequisite: U3 or U4 status
Advisory prerequisite: HIS 102 or 104
3 credits

HIS 335-K&4 Women at Work in Twentieth-Century America
Women have always worked but as Americans entered the 20th century the conditions of labor–and workers' relationship to their work–changed for both men and women wage-earners. This course will explore the various changes as they directly affected American women economically, socially, and politically and will open up discussions of the impact of race and class as well as gender. This course is offered as both HIS 335 and WST 335.
Prerequisite: U3 or U4 status
Advisory prerequisite: HIS 104
3 credits

HIS 338-K&4 Asian and Pacific Islanders in American History
Asian and Pacific Islanders in American History is an examination of the historical factors that have molded Asian and Pacific Islander life in the United States. Strongly emphasized themes include imperialism/colonialism, immigration, gender/sexuality, second generation, and images/narrative.
Prerequisite: U3 or U4 status
Advisory prerequisite: Two HIS courses
3 credits

HIS 368-K&4 Wealth and Inequality in the Modern Corporate Age
This course delves into the dynamics by which wealth has been created in an American economy dominated by large corporations, and the changing patterns of inequality that have followed. Ever since big companies came to dominate the economy in the late nineteenth century, American affluence has come in spurts or booms. Each period has had its characteristic new technologies and companies and their entrepreneurs, which part of the following will chart, from the robber bards to the dot.com-ers. We will then explore the work most Americans did, on wealth distribution and political economy, and on the changing ways in which many Americans remained poor.
Prerequisites: U3 or U4 standing
Advisory prerequisites: HIS 103 or 104
3 credits

HIS 371-K&4 Law and Society in American History, 1620-1877
This course examines the interaction between law and society in America from the period of European colonization through the mid-19th century. Some of the themes we will examine are: the clash of native and European legal systems; the adoption and adaptation of European law, particularly English law, to the circumstances of the American colonies; the development of the profession of law; changing definitions of crime and penal practices; shifts in women's legal status and their relationship to everyday practices and opportunities for women; the changing legal status of children; and transformations in the law of servitude, slavery, race, and emancipation. Witches, judges, women, lawyers, bankrupts, laborers, Native Americans, servants and slaves are some of the groups we encounter in assessing the forces that shaped American legal culture and its institutions. No prior knowledge of law is necessary.
Prerequisites: U3 or U4 status
Advisory prerequisite: HIS 103
3 credits

HIS 372-K&4 U.S. Constitutional History and Civil Rights
An examination of United States law and constitutional history from colonial times to the present. A particular focus is placed on the history of civil rights and the struggles of women, minorities and others to be fully included in the interpretation of constitutional protections.
Prerequisites: U3 or U4 status
3 credits

HIS 373-F History of Crime and Criminal Justice in the U.S.
Study of the development of police, courts, prisons, criminal law and crime in the United States from the 17th century to the present. Particular attention is paid first to the great epidemics of the 19th century, and how public health measures brought them under control, and the emergence of chronic ailments such as cardiovascular disease, cancer and diabetes as the leading causes of death in the 20th century.
Prerequisite: U3 or U4 status
Advisory prerequisite: HIS 103 or HIS 104
3 credits

HIS 379-K Disease in American History
An examination of changing disease patterns and their impact on American society from the colonial period to the present. Particular attention is paid first to the great epidemics of the 19th century, and how public health measures brought them under control, and the emergence of chronic ailments such as cardiovascular disease, cancer, and diabetes as the leading causes of death in the 20th century.
Prerequisite: U3 or U4 status
Advisory prerequisite: HIS 103 or HIS 104
3 credits

HUG 475 Undergraduate Teaching Practicum II
Work with a faculty member as an instructor in one of the faculty member's regularly scheduled classes. The student is required to attend all the classes, do all the regularly assigned work and meet with the faculty member at regularly scheduled times to discuss the intellectual and pedagogical matters relating to the course. In HUG 475, students assume greater responsibility in such areas as leading discussions and analyzing results of tests that have already been graded. Students may not serve as teaching assistants in the same course twice. This course does not count toward the major or minor in French.
Prerequisites: U3 or U4 standing; permission of instructor and language coordinator
3 credits, S/U grading

HUG 476 Undergraduate Teaching Practicum II
Work with a faculty member as an instructor in one of the faculty member's regularly scheduled classes. The student is required to attend all the classes, do all the regularly assigned work and meet with the faculty member at regularly scheduled times to discuss the intellectual and pedagogical matters relating to the course. In HUG 476, students assume greater responsibility in such areas as leading discussions and analyzing results of tests that have already been graded. Students may not serve as teaching assistants in the same course twice. This course does not count toward the major or minor in French.
Prerequisites: U3 or U4 standing; permission of instructor and language coordinator
3 credits, S/U grading

HUF French Literature and Culture Courses in English

HUF 475 Undergraduate Teaching Practicum I
Work with a faculty member as an assistant in one of the faculty member's regularly scheduled classes. The student is required to attend all the classes, do all the regularly assigned work and meet with the faculty member at regularly scheduled times to discuss the intellectual and pedagogical matters relating to the course. In HUF 475, students assume greater responsibility in such areas as leading discussions and analyzing results of tests that have already been graded. Students may not serve as teaching assistants in the same course twice. This course does not count toward the major or minor in German.
Prerequisites: U3 or U4 status
3 credits, S/U grading

HUF Italian Literature and Culture Courses in English

HUF 476 Undergraduate Teaching Practicum II
Work with a faculty member as an assistant in one of the faculty member's regularly scheduled classes. The student is required to attend all the classes, do all the regularly assigned work and meet with the faculty member at regularly scheduled times to discuss the intellectual and pedagogical matters relating to the course. In HUF 476, students assume greater responsibility in such areas as leading discussions and analyzing results of tests that have already been graded. Students may not serve as teaching assistants in the same course twice. This course does not count toward the major or minor in Italian.
Prerequisites: U3 or U4 standing; permission of instructor and language coordinator
3 credits, S/U grading
Students may not serve as teaching assistants in the same course twice. This course does not count toward the major or minor in Italian.  
Prerequisite: U3 or U4 standing; permission of instructor and language coordinator  
3 credits, S/U grading

HUI 476 Undergraduate Teaching Practicum II  
Work with a faculty member as an assistant in one of the faculty member's regularly scheduled classes. The student is required to attend all the classes, do all the regularly assigned work and meet with the faculty member at regularly scheduled times to discuss the intellectual and pedagogical matters relating to the course. In HUI 476, students assume greater responsibility in such areas as leading discussions and analyzing results of tests that have already been graded. Students may not serve as teaching assistants in the same course twice. This course does not count toward the major or minor in Italian.  
Prerequisite: U3 or U4 standing; permission of instructor and language coordinator  
3 credits, S/U grading

HUR Russian Literature and Culture Courses in English  

HUR 475 Undergraduate Teaching Practicum I  
Work with a faculty member as an assistant in one of the faculty member's regularly scheduled classes. The student is required to attend all the classes, do all the regularly assigned work and meet with the faculty member at regularly scheduled times to discuss the intellectual and pedagogical matters relating to the course. In HUR 476, students assume greater responsibility in such areas as leading discussions and analyzing results of tests that have already been graded. Students may not serve as teaching assistants in the same course twice. This course does not count toward the major or minor in Russian.  
Prerequisite: U3 or U4 standing; permission of instructor and language coordinator  
3 credits, S/U grading

HUR 476 Undergraduate Teaching Practicum II  
Work with a faculty member as an assistant in one of the faculty member's regularly scheduled classes. The student is required to attend all the classes, do all the regularly assigned work and meet with the faculty member at regularly scheduled times to discuss the intellectual and pedagogical matters relating to the course. In HUR 476, students assume greater responsibility in such areas as leading discussions and analyzing results of tests that have already been graded. Students may not serve as teaching assistants in the same course twice. This course does not count toward the major or minor in Russian.  
Prerequisite: U3 or U4 standing; permission of instructor and language coordinator  
3 credits, S/U grading

HUM Humanities  

HUM 201-D Film and Television—Genres  
An introduction to the study of film through the examination of multiple genres. Special attention is given to how film deals with issues of race and gender.  
Prerequisite: Completion of D.E.C. category B  
3 credits

HUM 202-D Film and Television—History and Theory  
An introduction to the history of film from the “primitive” era to the present. Special attention is given to mainstream Hollywood cinema as well as to experimental traditions originating in the Soviet Union, France, and Germany.  
Prerequisite: Completion of D.E.C. category B  
3 credits

HUM 447 Directed Readings  
Independent work with a faculty member.  
Prerequisite: Permission of instructor and director of undergraduate studies  
1-3 credits

ISE Information Systems  

ISE 102 Introduction to Web Design and Programming  
An introduction to the design of Web pages, specifically the development of browser and device independent HTML, with an emphasis on the XHTML standards. Includes the use of style sheets (CSS) and tools for page layout and validation. HTML is presented as a markup language, explaining the rules of HTML elements and attributes. Students learn the separation of page viewing information from the HTML through CSS style sheets as well as the use of block layout without using HTML tables. Addresses HTML display properties including text, color, image, and graphic elements as well as approaches to HTML validation and techniques.  
Advisory Prerequisite: CSE 101 or basic computer skills  
3 credits

ISE 108 Introduction to Programming  
Introduces computer programming at a level suitable for those with no prior programming experiences, including liberal arts and humanities majors. Programming exercises involve state-of-the-art visual applications. Topics include problem-solving techniques, object-oriented design, and programming concepts such as conditionals, iteration, arrays, and modularity.  
3 credits

ISE 208 Intermediate Programming  
Teaches programming and system design techniques with an emphasis on applications to business. Topics include object-oriented design techniques, testing and debugging, data structures, recursion, and exception-handling. Uses the Java programming language.  
Prerequisite: ISE 108  
3 credits

ISE 215 Foundations of Computer Science  
Introduction to the logical and mathematical foundations of computer science. Topics include functions, relations, and sets; recursion and functional programming; elementary logic; and mathematical induction and other proof techniques.  
Prerequisite: AMS 151 or MAT 125 or MAT 131  
3 credits

ISE 300 Writing in Information Systems  
See Requirements for the Information Systems Major, Upper-Division Writing Requirement.  
Prerequisites: WRT 102; U3 or U4; ISE major  
1 credit

ISE 301 History of Computing  
A study of the history of computational devices from the early ages through the end of the 20th century. Topics include needs for computation in ancient times, development of computational models and devices through the 1800’s and early 1900’s, World War II and the development of the first modern computer, and early uses in business. Creation of programming languages and the microchip. Societal changes in computer usage due to the microcomputer, emergence of the Internet, the World Wide Web, and mobile computing. Legal and social impacts of modern computing. Cannot be used as a technical elective for the CSE major or minor.  
Prerequisite: U2 standing or higher  
Advisory Prerequisite: one course in computing  
3 credits

ISE 302 Professional Ethics for Computer Science  
Familiarizes students with professional practice in Information Technology. Enables them to identify ethical conflicts, their responsibilities and options, and to think through the implications of possible solutions to ethical conflicts.  
Prerequisites: CSE 219 or CSE 260  
1 credit

ISE 305 Database Design and Practice  
The design of database applications including Entity-Relationship data modeling, the relational data model, the SQL database query language, application development, and database administration. Students will complete a project that includes designing a database application and implementing it using database development tools. May not be taken for credit in addition to CSE 305.  
Prerequisites: ISE 208 or CSE 214 or CSE 230  
3 credits

ISE 310 Data Communication and Networks  
Study of communication networks: Local area networks (LAN), integrated voice and data systems (IVDS), wide area networks (WAN). Their topology, basic terms, protocol, path, point-to-point protocols, speed, and distance limitations. RS232, TCP/IP, MAP/TOP, DSS, OSI. Network design and planning, network operating systems. May not be taken by students with credit for CSE/ISE 246. This course is offered as both CSE 310 and ISE 310.  
Prerequisites: CSE 214 and CSE 220  
3 credits

ISE 311 Systems Administration  
This course covers practical techniques to manage information systems, also known as IT Systems Administration. Students will learn how to install computers for assorted hardware and software platforms (Windows, Unix/Linux, OS/X). Install networking equipment and configure it. Install server software on several systems (e.g. web, database, mail) and config-
ure it. Secure the network, hosts, and services, and apply system patches. Set up redundant computing services, virtual machines/services, and hardware so that services can survive some hardware/software failures. Evaluate the performance, reliability, and security of the overall system. 

Prerequisites: CSE 214 or CSE 230 or ISE 208

3 credits

ISE 315 Database Transaction Processing Systems

Theory and practice of design for applications involving transactional access to a database. Transaction design, schema design, restart and recovery, journaling, concurrency control, distributed databases. Student groups perform design and implementation of significant database application. This course is offered as both CSE 315 and ISE 315.

Prerequisites: CSE 305 or ISE 305

3 credits

ISE 320 Information Management

The course presents the relationship between information technology and the systems that use the technology. The emphasis is on business systems with a high information technology component (e.g., software developments, communications, financial management, etc.). Topics include infrastructure management, information management, security, and communications. Emphasis is given to case studies relating to information management.

Prerequisites: U2 standing

3 credits

ISE 323 Human-Computer Interaction

A survey course designed to introduce students to Human-Computer Interaction and prepare them for further study in the specialized topics of their choice. Students will have the opportunity to delve deeper in the course through a course project, and through a two-three week special topic selected at the instructor’s discretion.

Prerequisites: CSE 214 or CSE 230

3 credits

ISE 325 Computers and Sculpture

This multidisciplinary class surveys how computer science and computer technology are used in sculpture. Case studies with slides, videos, and software demonstrations illustrate a range of approaches of sculptors incorporating computers in their creative process. Various state-of-the-art fabrication technolo-

gies are studied (with site visits if available on campus). Mathematical foundations are emphasized so students can recognize them when analyzing sculpture and choose the right tool when designing. In the weekly laboratory, these ideas are reinforced with proj-

ects using a range of available software and inexpen-

sive construction materials, e.g., paper, cardboard, and foamcore.

Prerequisite: CSE 110 or permission of instructor

3 credits

ISE 333 User Interface Development

Survey of user interface systems, including topics such as command language, windowing, multiple input/output devices, architecture of user interface management systems. Additional topics may include human factors, standards, or visual languages. Students participate in a project involving the design and implementa-

tion of an interface. This course is offered as both CSE 333 and ISE 333.

Prerequisites: CSE 218

Advisory Prerequisite: PSY 102

3 credits

ISE 334 Introduction to Multimedia Systems

Discussion of technologies available for user interfaces. Discussion of hypertext, voice, music, and video together with tools and models for capturing, editing, presenting, and combining them. Capabilities and characteristics of a range of peripheral devices includ-

ing devices based on posture, gesture, head move-

ment, and touch. Case studies of academic and com-

mercial multimedia systems including virtual reality systems. Students participate in laboratory exercises and build a multimedia project. This course is offered as both CSE 334 and ISE 334.

Prerequisites: U2, U3 or U4 standing

3 credits

ISE 336 Internet Programming

Introduces the design and development of software for Internet commerce. Topics include extended markup language, scripting, virtual appliances, Internet media types, Web services, multimedia, cookies, certificates, encryption, and the wireless Internet. This course is offered as both CSE 336 and ISE 336.

Prerequisites: CSE 210

2 credits

ISE 340 Design of Computer Games

Fundamental ideas underlying the design of games, which occurs before the programming stage. How games function to create experiences, including rule design, play mechanics, game balancing, social game interaction and the integration of visual, audio, tactile and textual elements into the total game experience. Game design documentation and play testing. Students will design their own game during the semester.

Advisory Prerequisite: Basic Computer Skills

3 credits

ISE 377 Introduction to Medical Imaging

An introduction to the mathematical, physical, and computational principles underlying modern medical imaging systems. Covers fundamentals of X-ray computer tomography, ultrasonic imaging, nuclear imaging, and magnetic resonance imaging (MRI), as well as more general concepts required for these, such as linear systems theory and the Fourier transform. Popular techniques for the visualization, segmenta-

tion, and analysis of medical image data are discussed, as well as applications of medical imaging, such as image-guided intervention. The course is appropriate for computer science, biomedical engineering, and electrical engineering majors.

Prerequisites: AMS 161 or MAT 127 or 132 or 142; AMS 210 or MAT 211

3 credits

ISE 378 Introduction to Robotics

Introduces basic concepts in robotics including coor-

inate transformation, kinematics, dynamics, Laplace transforms, equations of motion, feedback and feed-

forward control, and trajectory planning. Covers sim-

ple and complex sensors (such as cameras), hybrid and behavior based control and path planning. Concepts are illustrated through laboratories using the LEGO Robot Kit.

Prerequisites: AMS 161 or MAT 127 or 132 or 142; AMS 210 or MAT 211 or MEC 362

3 credits

JPN

Japanese Language

JPN 410 Business Japanese

A course designed for students who wish to expand their Japanese communication skills in a business con-

text and understand socio-economic situations as well as socio-cultural values in Japan. Upon completing this course, students will be able to hold conversations with correct business vocabulary and with culturally appropriate manners, read authentic materials related to business and economics in Japan, and write business correspondence in proper styles and formats.

Prerequisite: JPN 312 or equivalent

3 credits

JRN

Journalism

JRN 110 News I: Basic News Reporting and Writing

An introduction to reporting and writing the news, including defining what is newsworthy. This is a foun-

dation for all other courses in the journalism program. Through weekly assignments students will develop a mastery of the basic elements of writing a news story that conforms to standards of clarity, accuracy and fairness. An emphasis is placed on gaining practical experience through reporting on classroom, campus and community events. The development of basic skills is accompanied by the exploration of the role of the press in a free society. The course includes a six-

week immersion lab in grammar, punctuation and sen-

tence structure. Students who pass a proficiency test will be exempt from the lab. All other students must take the lab and pass the test to advance in the jour-

nalism program. Previously offered as JRN 287. Not for credit in addition to JRN 287.

Prerequisite: Completion of D.E.C. category A

Pre- or Corequisite: JRN 101 (formerly offered as EGL 390.01 Fall 2005-Spring 2006) or JRN 103

Mandatory Corequisite: JRN 111

3 credits

JRN 210 News II: Beat Reporting

Building on their work in JRN 110, students select and develop a news beat, with an emphasis on finding sto-

ries, developing sources, interviewing, and research methods. Students become better acquainted with newspaper style, writing to a fixed word-length, using numbers accurately, and writing on deadline. Previously offered as JRN 387. Not for credit in addi-

tion to JRN 387.

Prerequisite: JRN 110 (formerly JRN 287) and 111

Mandatory Corequisite: JRN 211

3 credits

JRN 220 Media Law and Ethics

This course examines how journalists do their work from the perspectives of legal and ethical parameters. It will provide an introduction to the legal foundation that supports freedom of the press and examine current law on such subjects as source confidentiality, access to documents, libel, and invasion of privacy. Students will also examine ethical codes that guide journalists, including standards regarding indepen-

dence, accountability, truth-telling, protecting sources, and study conflicts that arise when journalis-

tics principles clash with real-life dilemmas.

Prerequisite: JRN 110 and 111

3 credits

JRN 288 On Campus Internship

Designed to provide students with experience in jour-

nalism at the campus level. Students will work for a campus news outlet on a schedule approved by the
School of Journalism. The work will involve journalistic skills related to the educational goals of the School of Journalism. The internship coordinator will determine whether the work meets appropriate journalistic standards. This internship is required of all journalism majors and may be repeated once. S/U grading only.

Prerequisites: JRN 210 and 211; 12 credits of JRN; permission of intern coordinator

1 credit, S/U grading

JRN 301 Journalism 24/7

This course examines the rapidly evolving media landscape and the implications for journalism and journalists. Students examine the revolutionary changes in digital technology, dramatically shifting patterns of media use and production of non-traditional audiences, challenges of serving a more diverse audience, and accelerating media consolidation, and explore alternative visions for the impact on content, standards, business models, and jobs in the next decade.

Prerequisites: JRN 108 or 201; JRN 110 and 111

3 credits

JRN 310 News III: Reporting and Writing for Broadcast

Students learn to report and write news stories for radio and television. Students will become acquainted with the proper use of sounds and visuals in broadcast reporting and learn how to write news scripts to time. Class held in production/workshop environment. Additional hours in television studio and editing facilities are required.

Prerequisite: JRN 210 and 211; minors must have 110 and 111 and permission

3 credits

JRN 320 The Promise and Perils of Online Journalism

This course examines the challenges presented by the explosion of journalism on the Internet and assesses the role of the journalist in an online society. Students are exposed to both practical skills and a broader understanding of the issues. Topics include how journalists add value to information on the Internet, writing and editing for the Web, the use of interactive tools, blogs and podcasts, and an elementary understanding of Web design. At the same time, students explore issues of privacy, the Internet's potential threat to traditional journalistic standards, and how online publishing is creating new audiences. Students will critique news Web sites, participate in a blog and podcast, create a news Web page, and produce an online story package.

Course includes two lectures and a weekly three-hour lab in the use of digital tools.

Prerequisites: JRN 210 and 211; 301

3 credits

JRN 334 Science and Health Reporting

Students will examine methods of evaluating and reporting science and health news with accuracy and context. Among the topics to be covered: how to read a medical journal article; how to understand simple statistical data; how to develop and interview expert sources; how to deal with conflicting claims. Drawing on the resources of the Health Sciences Center, the course also will provide information on how research and health care are organized and funded. Students will critique news Web sites, participate in a blog and podcast, create a news Web page, and produce an online story package.

Course includes two lectures and a weekly three-hour lab in the use of digital tools.

Prerequisites: JRN 210 and 211; 301

3 credits

JRN 335 Reporting in New York City

This course, which is offered only in winter and summer, gives students with an overview of how reporters cover the major institutions in New York City: City Hall, the United Nations, the police department, the courts, Wall Street, etc. The course offers a blend of classroom instruction, talks with officials and journalists, and hands-on reporting. On reporting days, the class will be run as a newsroom. The course will be co-taught by a print journalist and an electronic-news journalist. Students may choose whether to concentrate on writing for print and the Web or preparing video packages for broadcast and the Web. It is offered at the university's Manhattan extension.

Prerequisite: JRN 210 and 211; permission

3 credits

JRN 337 Introduction to Narrative Journalism

Building on students' experiences in newswriting, this course examines the reporting and writing of longer stories and more textured feature stories. There will be an emphasis on focus, structure, and storytelling, including the rudiments of developing style and a narrative voice. Students will be expected to write several original enterprise stories. They will also explore the similarities and differences in telling stories in print, online, and in broadcast formats. Previously offered as JRN 288. Not for credit in addition to JRN 288 "Feature Writing" that was offered prior to Fall 2006.

Prerequisite: JRN 210 (formerly JRN 367) and 211

Advisory Prerequisite: Egl 399

3 credits

JRN 350 The Principles of Editing

This course examines the fundamentals of editing, for all media, with emphasis on critical thinking, maximizing accuracy, removing bias, and providing context. Students will practice editing for print, broadcast, and online before completing a culminating project involving editing the same story across three different platforms.

Prerequisite: JRN 310

Pre- or Corequisite: JRN 320

3 credits

JRN 352 Magazine Editing

This course is designed for students who have an interest in magazine journalism. Students will study editorial content, editing, design and production of general interest magazines, the booming market in specialty and niche magazines, and the growing market in sports, lifestyle and entertainment magazines. Students will learn how to develop ideas and craft them into sophisticated pieces with protagonists and strong narrative drive. They will learn to bring their stories to life using novelistic techniques such as character development, voice, mood and theme, conflict and resolution, scene-setting, foreshadowing and dialogue. Required reading assignments, group discussions of works-in-progress and roundtable meetings with professional narrative journalists will inspire students to develop their own writing voice and voice. The culminating goal of the course is for each student to produce a 2,000-3,000-word story for publication. Students will also learn how to select a market for their stories and write a query letter.

Prerequisites: JRN 337, JRN 350 and permission of department

3 credits

JRN 356 Magazine Writing

This course builds on JRN 337, advancing the exploration of longform magazine stories. Students will learn how to develop ideas and craft them into sophisticated pieces with protagonists and strong narrative drive. They will learn to bring their stories to life using novelistic techniques such as character development, voice, mood and theme, conflict and resolution, scene-setting, foreshadowing and dialogue. Required reading assignments, group discussions of works-in-progress and roundtable meetings with professional narrative journalists will inspire students to develop their own writing voice and voice. The culminating goal of the course is for each student to produce a 2,000-3,000-word story for publication. Students will also learn how to select a market for their stories and write a query letter.

Prerequisites: JRN 310 and permission of department

3 credits

JRN 360 Reporting in New York City

This course examines the rapidly evolving media landscape and the implications for journalism and journalists. Students are exposed to both practical skills and a broader understanding of the issues. Topics include how journalists add value to information online, writing and editing for the Web, the use of interactive tools, blogs and podcasts, and an elementary understanding of Web design. At the same time, students explore issues of privacy, the Internet's potential threat to traditional journalistic standards, and how online publishing is creating new audiences. Students will critique news Web sites, participate in a blog and podcast, create a news Web page, and produce an online story package.

Course includes two lectures and a weekly three-hour lab in the use of digital tools.

Prerequisites: JRN 210 and 211; 301

3 credits

JRN 365 In-Depth Reporting

This course is designed to prepare student journalists to get to the bottom of complex stories through probing reporting that will seek rich detail and context. Students will work independently under the supervision of a City Editor to produce one in-depth story of approximately 1,500 words during the semester. These stories will delve deeply into the subject matter. Students will meet regularly with the City Editor in a seminar setting to discuss procedures, ideas, progress, to brainstorm and to share their experiences and editorial concerns. They also will work independently on all aspects of developing their stories. Students will be graded on a number of benchmarks such as story proposal, revised proposal, quality of research and reporting, drafts of the story and the final story. It is the goal that the stories be published.

Prerequisite: JRN 310

3 credits

JRN 370 Internship

Students work at local, state, and national newspapers and magazines. The work must involve journalistic skills related to the educational goals of the department.

Prerequisites: JRN 210 and 211; 310 if broadcast; 12 credits JRN; permission

4-6 credits, S/U grading

JRN 490 Senior Project

This is a capstone course and a requirement for all majors. In a culminating activity, students produce a major story of professional quality, first in their area of journalistic concentration, and then adapt the story for two additional media platforms. Students attend a weekly seminar and work independently under the supervision of a faculty sponsor.

Prerequisites: JRN 360 or JRN 370 or JRN 380

Pre- or Corequisites: JRN 361 or JRN 371 or JRN 381

3 credits

MAR Marine Sciences

MAR 303 Long Island Marine Habitats

The study of six representative marine environments around Long Island. Students visit the sites on weekly field trips, measuring environmental parameters and identifying common plants and animals. Using qualitative and quantitative methods in the field and in laboratory sessions, the class determines major factors that control the biological community in each habitat.

Prerequisites: U3 or U4 standing; BIO 201

Advisory Prerequisites: AMS 110 or other statistics course; MAR 101 or 104 or 333

1 credit

MAR 320 Limnology

The physical, chemical, and biological aspects of lakes and ponds. The morphology of lake basins, physics of water movement, water chemistry, and ecology of organisms are explored through lecture and laboratory instruction. The laboratory portion of the course includes field sampling to investigate temporal variation in water chemistry and plankton biology, and laboratory experiments to demonstrate important concepts.

Prerequisites: BIO 201; CHE 131 or 141

1 credit

MEC Mechanical Engineering

MEC 400 Research and Nanotechnology

This is the capstone course for the minor in Nanotechnology Studies (NTS). Students learn primary aspects of the professional research enterprise through writing a journal-quality manuscript and making professional presentations on their independent research (499) projects in a formal symposium setting. Students will also learn how to construct a grant proposal (a typical NSF graduate fellowship proposal), methods to search for research fellowship funding, and key factors in being a research mentor.

Prerequisite: MEC 213; at least one semester of independent research (499) course

3 credits
MUS 208 Introduction to Digital Media Technology
A survey and hands-on introduction to digital media. Students are introduced to the practical, conceptual, and historical use of computers and related imaging tools in the visual arts through lecture, labs, readings, and project critiques. This course serves as preparation for further study in electronic media and as an opportunity for students in the arts to gain basic computer literacy. Students will develop strategies for combining images and text. Students will then distribute these works on the web. Emphasis is on the conceptual and artistic potential of the technology. No prior computer experience is required. This course is offered as MUS 208, ARS 208, and THR 208.
Prerequisite: One 200-level ARS, MUS or THR course (3 credits)

MUS 317 Interactive Media, Performance, and Installation
An investigation of the relationship between music and film and video. Students script, shoot, edit, and create short videos with soundtracks, exploring different aspects of visuals and music. All editing is done digitally. Works may be made for screen, installation, or performance. Also examines historical and contemporary artistic exploration with such media. This course is offered as ARS 317, MUS 317 and THR 317.
Prerequisites: At least one 200- or 300-level ARS, MUS, or THR studio or performance course; familiarity with the use of computers.
Advisory Prerequisite: ARS/MUS/THR 208 or ARS/MUS/THR 317 or THR 225 (3 credits)

MUS 318 Movie Making: Shoot, Edit, and Score
An investigation of the relationship between music and film and video. Students script, shoot, edit, and create short videos with soundtracks, exploring different aspects of visuals and music. All editing is done digitally. Works may be made for screen, installation, or performance. Also examines historical and contemporary artistic exploration with such media. This course is offered as ARS 318, MUS 318, and THR 318.
Prerequisites: One ARS, MUS, or THR course; familiarity with the use of computers.
Advisory Prerequisite: ARS/MUS/THR 208 or ARS/MUS/THR 317 or THR 225 (3 credits)

MUS 341 Life Sound Design
An investigation into the scientific, formal and artistic qualities of sound developed for students who may or may not have had formal musical training. Students will write reviews of sound pieces, create film or game soundtracks, and create sound-based art-works in response to course content, and write a paper on acoustic or psycho-acoustic phenomena. Emphasis is on studio production techniques, history of sound art and basic acoustics. Students will work on Macintoshes in the SINC site and LTA. This course is offered as ARS 341, MUS 341, and THR 341.
Prerequisite: One 200-level ARS, CSE, ISE, MUS, or THR course (3 credits)

PHY 251 Modern Physics
A survey of the major physics theories of the 20th century (relativity and quantum mechanics) and their impact on most areas of physics. It introduces the special theory of relativity, the concepts of quantum and wave-particle duality, Schrödinger’s wavefunction equation, and other fundamentals of quantum theory as they apply to nuclei, atoms, molecules, and solids. Three lecture hours and one recitation hour per week.
Prerequisite: PHY 122, or 126 and 127, or 132 and 134, or 142.
Pre- or Corequisite: MAT 203 or 205 or AMS 261.
Corequisite for physics majors: PH 252 (3 credits)

POL 338-J Contemporary India: History, Politics, and Diplomacy (Post-1947)
Study of the forces shaping India’s post-independence history, domestic politics, and foreign diplomacy. As the world’s largest democracy, second most populous nation, and Asia’s second fastest growing economy, its impact on the international scene in the coming years will be carefully analyzed. The course, taught by a former Ambassador, will also focus on emerging trends in Indo-U.S. relations and impact of the Indian diaspora.
This course is offered as both AAS 338 and POL 338.
Prerequisites: AAS 201 or POL 101; U3 or U4 standing (3 credits)

POL 339-J Contemporary China: History, Politics, and Diplomacy (Post-1949)
This course will analyze the evolution of major events in contemporary China following the communist revolution that led to the establishment of the People’s Republic in 1949. The course, taught by a former Ambassador, will examine major political, economic, and social developments in light of both their general global impact and their particular relationship with the U.S. This course is offered as both AAS 339 and POL 339.
Prerequisites: AAS 219 or POL 101; U3 or U4 standing (3 credits)

RUS 331 Russian Online
This course is taught in English.

SBC 102 Undergraduate Seminar at Stony Brook Southampton
A seminar for all students enrolled at Stony Brook Southampton. Seminar covers various topics under the general scope of sustainability. Seminars vary by section and include examination of topics such as sustainable development, global warming, sprawl, economic development, environmental policies, alternative energy resources, population growth, food supply, and global poverty.
Prerequisite: Enrollment at Stony Brook Southampton
1 credit, ABC/U grading

SBC 201 Systems and Models
Introduction to the dynamic modeling of complex systems with feedbacks. Students will learn to use software that facilitates the visualization, formulation, and analysis of systems. Students will learn about systems with positive and negative feedbacks, the effects lags on system performance, and the difference between stocks and flows. Systems studied will include ecological models, economic models, chemical models, population models, epidemiological models, and models that include the interactions between population, economic development, and the environment.
Prerequisite: MAT 125/126 or MAT 131
1 credit

SBC 325 Environmental Writing and the Media
An examination of multiple genres (including: photo journalism, literary nonfiction, fine art and advertising and documentary film) in order to understand ways in which these genres are utilized to inform and manipulate public opinion regarding the environment. The culmination of the course will be a final project using multiple genres.
Prerequisite: WRT 102
Advisory Prerequisite: ACT 204
3 credits

SBC 313-J Asian Theatre and Drama
A comprehensive overview of Asian theatre with special emphasis on drama, theatrical aesthetics, conventions of production, and actor training in India, China, Korea, and Japan. This course is offered as both AAS 313 and POL 330.
Prerequisites: Completion of D.E.C. categories A, B, and C
3 credits

SBC 316-I European History and Drama: The Modern Era
Developments in theatre from the beginnings of the Industrial Revolution to the present. Topics covered include melodrama, romanticism, realism, expressionism, the birth of the avant garde, post-war modernism, and trends at the end of the twentieth century. Discussions cover the historical and cultural context in which different forms of theatre occurred, changes
THR 317 Interactive Media, Performance, and Installation
An investigation of the relationship between music and film and video. Students script, shoot, edit, and create short videos with soundtracks, exploring different aspects of visuals and music. All editing is done digitally. Works may be made for screen, installation, or performance. Also examines historical and contemporary artistic exploration with such media. This course is offered as ARS 317, MUS 317 and THR 317. 
Prerequisite: At least one 200- or 300-level ARS, MUS, or THR studio or performance course; familiarity with the use of computers
Advisory Prerequisite: ARS/MUS/THR 208 or ARS/MUS/THR 317 or ARS 225
3 credits

THR 318 Movie Making: Shoot, Edit, and Score
An investigation of the relationship between music and film and video. Students script, shoot, edit, and create short videos with soundtracks, exploring different aspects of visuals and music. All editing is done digitally. Works may be made for screen, installation, or performance. Also examines historical and contemporary artistic exploration with such media. This course is offered as ARS 318, MUS 318, and THR 318. 
Prerequisite: One ARS, MUS, or THR course; familiarity with the use of computers
Advisory Prerequisite: ARS/MUS/THR 208 or ARS/MUS/THR 317 or ARS 225
3 credits

THR 341 Life Sound Design
An investigation into the scientific, formal and artistic qualities of sound developed for students who may or may not have had formal musical training. Students will write reviews of sound pieces, create film or game soundtracks, and create sound-based art-works in response to course content, and write a paper on acoustic or psycho-acoustic phenomena. Emphasis is on studio production techniques, history of sound art and basic acoustics. Students will work on Macintoshes in the SINC site and LTA. This course is offered as ARS 341, MUS 341, and THR 341. 
Prerequisite: One 200-level ARS, CSE, ISE, MUS, or THR course
3 credits

WST
Women's Studies

WST 316 The Healer and the Witch in History
Female healers from the Middle Ages to the present, their association with “diabolic” powers, and the progressive development of mechanisms for their suspicion and control and how they related to their societies. The course also treats the development of organized medicine and its impact upon female healers and patients. This course is offered as both HIS 316 and WST 316. 
Prerequisite: U3 or U4 standing
Advisory Prerequisite: One HIS or WST course
3 credits

WST 335 Women at Work in Twentieth-Century America
Women have always worked but as Americans entered the 20th century the conditions of labor--and workers’ relationship to their work--changed for both men and women wage-earners. This course will explore the various changes as they directly affected American women economically, socially, and politically and will open up discussions of the impact of race and class as well as gender. This course is offered as both HIS 335 and WST 335.
Prerequisite: U3 or U4 status
Advisory prerequisite: HIS 104
3 credits
AAS 379-J Ethnicity and Nation in China
This course explores issues of ethnic and national identity in China, both past and present, focusing on the material and social contexts that have shaped perceptions of, and interactions between, cultural groups in China and along its frontiers. Drawing on case studies from the Himalayan plateau, Yunnan highlands, Inner Asian steppes, Taiwan, and elsewhere, students examine how constructions of identity, as well as civilizing projects and resistance movements, have been influenced by ecology and culture, social organization and economic livelihood, ritual exchange, religion, and political authority. This course is offered as both AAS 379 and ANT 379.
Prerequisite: U3 or U4 standing
Advisory Prerequisite: AAS 220 or HIS 219 (or the former CNS 249 or 250)
3 credits

ANT 379-J Ethnicity and Nation in China
This course explores issues of ethnic and national identity in China, both past and present, focusing on the material and social contexts that have shaped perceptions of, and interactions between, cultural groups in China and along its frontiers. Drawing on case studies from the Himalayan plateau, Yunnan highlands, Inner Asian steppes, Taiwan, and elsewhere, students examine how constructions of identity, as well as civilizing projects and resistance movements, have been influenced by ecology and culture, social organization and economic livelihood, ritual exchange, religion, and political authority. This course is offered as both AAS 379 and ANT 379.
Prerequisite: U3 or U4 standing
Advisory Prerequisite: AAS 220 or HIS 219 (or the former CNS 249 or 250)
3 credits

ARS 299 Studio Management Workshop
Development of practical skills needed to manage and maintain a studio lab or shop in the art department. Students work under the supervision of a faculty member in an area of interest, such as photography, printmaking, electronic media, or sculpture. May be repeated twice.
Prerequisite: Permission of instructor
1 credit, S/U grading

BME 100 Introduction to Biomedical Engineering
A rigorous introduction to biomedical engineering that provides the historical and social context of BME through contemporary emerging areas within BME. Specific areas covered in depth include: bioelectricity and biosensors (action potentials to signal processing), bioimaging (invasive and non-invasive), genetic engineering (with ethical discussions), and biostatistics. Hands-on computational modeling introduces the physiological concept of positive and negative feedback loops in the body. Emphasis is placed on ways engineers view the living system by using design based approaches and computation.
Prerequisite: BME Major, BNG Minor or Departmental Consent
3 credits
BME 212 Biomedical Engineering Research Fundamentals
Introduction to data collection and analysis in the context of biophysical measurements commonly used by bioengineers. Statistical measures, hypothesis testing, linear regression, and analysis of variance are introduced in an application-oriented manner. Data collection methods using various instruments, A/D boards, and PCs as well as LabView, a powerful data collection computer package. Not for credit in addition to the discontinued BME 309.
Prerequisites: BME major, BME 100 and MEC 260
Pre- or Corequisite: BIO 202 or 203
3 credits

BME 213 Studies in Nanotechnology
The emerging field of nanotechnology develops solutions to engineering problems by taking advantage of the unique physical and chemical properties of nanoscale materials. This interdisciplinary, co-taught course introduces materials and nano-fabrication methods with applications to electronics, biomedical, mechanical and environmental engineering. Guest speakers and a semester project involve ethics, toxicology, economic and business implications of nanotechnology. Basic concepts in research and design methodology and characterization techniques will be demonstrated. Course is cross-listed as BME 213, MEC 213, and EST 213 and is required for the Minor in Nanotechnology Studies (NTS).
Prerequisites: PHY 131 or PHY 125; CHE 131 or ESG 198
3 credits

BME 301 Bioelectricity
Theoretical concepts and experimental approaches used to characterize electric phenomena that arise in live cells and tissues. Topics include excitable membranes and action potential generation, cable theory, equivalent dipoles and volume conductor fields, bioelectric measurements, electrodes and electric stimulation of cells and tissues.
Prerequisites: BME 212; ESE 271; ESG 111 (or ESE 124); BIO 202 or 203
3 credits

BME 303 Biomechanics
Illuminates the principles of mechanics and dynamics that apply to living organisms, from cells to humans to Sequoia trees. The behavior of organisms is examined to observe how they are constrained by the physical properties of biological materials. Locomotion strategies (or the lack thereof) are investigated for the forces and moments required and energy expenditures. Includes the relationship between form and function to illustrate how form dominates behavior. Presents the physiological effects of mechanical stresses on organs, pathologies that develop from abnormal stress, and how biological growth and adaptation arise as a natural response to the mechanics of living.
Prerequisites: MEC 260; BME 212
Pre or Corequisite: BIO 202 or 203
3 credits

BME 305 Biofluids
The fundamentals of heat transfer, mass transfer, and fluid mechanics in the context of physiological systems. Techniques for formulating and solving biofluid and mass transfer problems with emphasis on the special features and the different scales encountered in physiological systems, from the organism to the tissue level down to the molecular transport level.
Prerequisites: AMS 261 (or MAT 203 or MAT 205); AMS 361 (or MAT 303 or MAT 305); BME 212; MEC 260; MEC 262
Pre- or Corequisite: BIO 202 or 203
3 credits

BME 381 Nanofabrication in Biomedical Applications
Theory and applications of nanofabrication. Reviews aspects of nanomachines in nature with special attention to the role of self-lubrication, intracellular or intercellular viscosity, and protein-guided adhesion. Discusses current nanofabricated machines to perform the same tasks and considers the problems of lubrication, compliance, and wear. Self-assembly mechanisms of nanofabrication with emphasis on cutting-edge discovery to overcome current challenges associated with nanofabricated machines.
Prerequisites: CHE 132; BME 100
Pre- or Corequisite: BIO 202 or 203
3 credits

BME 499 Research in Biomedical Engineering
An independent research project with faculty supervision.
Prerequisites: B-average in all science courses; permission of instructor and department
0-3 credits

BUS Business Management

BUS 214 Managerial Accounting
Introduces and explores fundamental income taxation concepts for individuals. Basic concepts of federal income taxation are explored, including gross income, exclusions, adjusted gross income, deductions, exemptions, and credits. Introductory tax concepts including cash and accrual methods, like-kind exchanges, and passive loss rules are covered. Additionally, students will familiarize themselves with the preparation of various individual income tax forms and schedules.
Prerequisites: BUS 115 or BUS 110; BUS 216; BUS major or IE major
3 credits

BUS 311 Federal Income Taxation I
Introduces and explores fundamental income taxation concepts for individuals. Basic concepts of federal income taxation are explored, including gross income, exclusions, adjusted gross income, deductions, exemptions, and credits. Introductory tax concepts including cash and accrual methods, like-kind exchanges, and passive loss rules are covered. Additionally, students will familiarize themselves with the preparation of various individual income tax forms and schedules.
Prerequisites: BUS 110 or BUS 115; BUS 310; BUS major
3 credits

BUS 314 Federal Income Taxation II
Introduces and explores fundamental income taxation concepts for C corporations, S corporations, and partnerships. Further introduces the student to gift and estate taxes, trusts and estates, and the administrative procedures of the Internal Revenue Service. Introductory tax concepts are explored, including corporate organizational structures, corporate organization, dividend issues, liquidation issues, reorganization, partnership organizations, taxation of partnerships, and fiduciary income taxation for estates and gifts. Additionally, students will familiarize themselves with the preparation of various corporate, partnership and fiduciary income tax forms and schedules.
Prerequisites: BUS Major; BUS 110 or BUS 115; BUS 511
3 credits

BUS 347 Business Ethics
An introduction to traditional ethical theories and their application to business. A basis for understanding how ethical issues in business arise, and some strategies to control or resolve them, are derived from an examination of the work of philosophers and other writers relating to business ethics. Recent business case studies enable students to develop their own perspectives.
Prerequisites: BUS 115 or BUS 110 or BUS 111; U3 or U4 standing; BUS Major or Minor or ECO or IE or MTD major
3 credits

BUS 351 Human Resource Management
Major trends in personnel management, including problems and issues faced by organizations and individuals in times of change. Responsibilities of the human resource department and the roles that every manager plays, both as a supervisor and as a client of the human resource department, are studied. Topics include human resources forecasting and planning job design, employee selection, test development and validation, equal employment opportunity laws and judicial rulings, performance appraisal, compensation, benefits, career development, safety, and labor relations.
Prerequisites: BUS 110 or 111 or 115; U3 or U4 standing; BUS major or minor or MTD or CME major
3 credits

BUS 357 Principles of Sales
Presents the skills to be successful in an extremely competitive business sales environment. Includes customer qualification, prospecting, sales message, sales demonstration, handling objections, closing techniques, and telemarketing and customer service activities.
Prerequisites: BUS 348; BUS major
3 credits

BUS 366 Money and Financial Institutions
Prerequisites: BUS 110 or 113; BUS 350 or ECO 389; BUS Major or Minor; ECO or IE or MTD major
3 credits

CME Chemical and Molecular Engineering

CME 304 Chemical Engineering Thermodynamics I
First and second laws of thermodynamics, PV behavior of pure substances, equations of state for gases and liquids, phase equilibria, mass and energy balances for closed and open systems, reversibility and equilibrium, application of thermodynamics to flow processes, heat effects during chemical reactions and combustion.
Prerequisites: PHY 132; CHE 132; CSE 130 or ESG 111 or MEC 112 or ESE 124
3 credits

CME 310 Chemical Engineering Laboratory I: Unit Operation and Fundamentals
Introduces general safety in a chemical engineering laboratory handling high pressure equipment, selection and identification of unit components, batch and continuous units, Reactor types: stirred, bubble column, and slurry-phase reactors. Precise measurements of pressure and temperature variables. Mass balance in a chemical reaction. Simulated distillation.
Prerequisite: CME major; CME 304, B- or better in CME 304
Corequisite: CME 300
2 credits

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SUPPLEMENT: COURSES

CME 312 Material and Energy Balance
Introduces analysis of chemical processes using the laws of conservation and energy as they apply to non-reacting and reacting systems. Integration of the concepts of equilibrium in physicochemical systems, and utilization of basic principles of thermodynamics. Numerical methods used in the design of chemical engineering processes. Solution of complex chemical engineering problems. Prerequisites: CME major; ESG 111 or MEC 112; CSE 219 or ISE 305; CSE 214 or 230; CSE 214 and 220; CSE 214 and (CSE 213 or CSE 215). Prerequisites: CME major; PHY 132; ESG 111 or MEC 112; AMS 261 or MAT 203; AMS 361 or MAT 303; CME 304, B- or better in CME 204. 3 credits

CME 314 Chemical Engineering Thermodynamics II
Equilibrium and the Phase Rule; VLE model and K-value correlations; chemical potential and phase equilibria for ideal and non-ideal solutions; heat effects and property changes on mixing; application of equilibria to chemical reactions; Gibbs-Duhem and chemical potential for reacting systems; liquid/liquid, liquid/solid, solid/vapor, and liquid/vapor equilibria; adsorption and osmotic equilibria, steady state flow and irreversible processes. Steam power plants, internal combustion and jet engines, refrigeration cycle and vapor compression, liquefaction processes. Prerequisites: CME major; CME 204, B- or better in CME 204. 3 credits

CME 315 Numerical Methods for Chemical Engineering Analysis
Critical analysis of experimental data development of engineering models by integrating a variety of computer-based programs: (1) Executing numerical calculus and solving numerical equations using a mathematical program (Mathematica); (2) Process using a simulation for typical chemical engineering processes (unit operation, distillation, etc.) using a simulation program (Lab-view). Prerequisites: CME major Pre- or Corequisite: AMS 361. 3 credits

CME 318 Chemical Engineering Fluid Mechanics
Introduces fluid mechanics. Dynamics of fluids in motion; laminar and turbulent flow, Bernoulli’s equation, friction in conduits; flow through fixed and fluidized beds. Study of pump and compressor performance and fluid metering devices. Includes introduction to microfluids. Prerequisites: CME major; AMS 261 (or MAT 203 or 205); PHY 131 (or 125 or 141). 3 credits

CME 320 Chemical Engineering Lab II: Chemical and Molecular Engineering
Introduction and operation of a continuous unit, handling of air-sensitive/water-sensitive materials, solvolysis and thermal techniques for materials synthesis, preparation of polymer nano-composites and nanosized materials. Prerequisites: CME major; CME 310. 2 credits

CME 322 Chemical Engineering Heat and Mass Transfer
Heat transfer by conduction, principles of heat flow in fluids with and without phase change, heat transfer by radiation, heat-exchange equipment. Principles and theory of diffusion, mass transfer between phases, distillation, leaching and extraction, fixed-bed membrane separation, crystallization. Prerequisites: CME major; CME 318, CME 304, B- or better in CME 304. 3 credits

CME 327 Molecular Modeling for Chemical Engineers
Molecular modeling techniques and simulation of complex chemical processes. Use of Monte Carlo methods and Molecular Dynamics methods. Emphasis on the simulation and modeling of biopolymeric systems. Prerequisites: CME major; PHY 132; ESG 111 or MEC 112; AMS 261 or MAT 203; AMS 361 or MAT 303; CME 304, B- or better in CME 204. 3 credits

CME 370 Cell Biology for Chemical Engineers
The course is intended to describe and introduce cellular and biological concepts and principles for chemical engineers. The course will provide details on the cellular processes, structures and regulations of the cellular homeostasis as response to internal and external changes and stimuli. Prerequisites: CME major. 3 credits

CME 371 Biomedical Polymers
This course focuses on the clinical performance of polymers and discusses the chemical, physical, mechanical and biological questions raised by the unique use of these materials within the human body. The chemistry and properties of key biomedical polymers will be studied and their biomedical applications will be discussed. The biomaterial’s response to the various components of its biological environment will be addressed, followed by the response of the host to the presence of the implanted polymer. Special attention will be given to the interaction of the system with two fundamental phenomena: the Foreign Body Response and the Coagulation Cascade. Applications of bio-polymers to tissue engineering and the relevance of nanoscale phenomena are discussed. Prerequisites: CME major. Pre- or Corequisite: CME 321 or permission by the instructor. 3 credits

CME 375 Fundamentals of Professional Chemical and Molecular Engineering
Preparatory class that provides an overview of professional licensure testing procedures for the Fundamentals of Engineering exam. This class reviews subject areas on the general section of the test as well as the profession-specific section covering chemical engineering. Course is designed to be completed in time for registration for the April F.E. Exam date. Prerequisites: CME major. 1 credit

CME 410 Chemical Engineering Laboratory III: Instrumentation, Material Design and Characterization
Students research a topic together with the course instructor and undergraduate program director, select an advisor and thesis committee. The student, with the advisor, drafts a course of preliminary experiments and the student presents a written thesis proposal, with an oral defense, to his/her committee. Prerequisites: CME 320. 2 credits

CME 475 Undergraduate Teaching Practicum
May be used as an open elective and repeated once. Students must have U4 standing as an undergraduate major within the college, a minimum GPA of 3.00 in all courses and a grade of "B" or better in the course in which the student is to assist; permission of the department is required. May be repeated only once. Prerequisites: U4 standing in major, grade of "B" or better in course in which assisting; 3.0 GPA. 3 credits

CSE 113-C Foundations of Computer Science I
Prerequisites: CSE 215 or MAT 125 or MAT 131. 3 credits

CSE 213 Foundations of Computer Science II
Prerequisites: CSE 215 or MAT 125 or MAT 131. 3 credits

CSE 301-H History of Computing
A study of the history of computational devices from the early ages through the end of the 20th century. Topics include needs for computation in ancient times, development of computational models and devices through the 1800’s and early 1900’s, World War II and the development of the first modern computer, and early uses in business. Creation of programming languages and the microchip. Societal changes in computer usage due to the microcomputer, emergence of the Internet, the World Wide Web, and mobile computing. Legal and social impacts of modern computing. Cannot be used as a technical elective for the CSE major or minor. Prerequisites: U2 standing or higher. Advisory Prerequisite: one course in computing. 3 credits

CSE 303 Introduction to the Theory of Computation
Prerequisites: CSE 214 and (CSE 213 or CSE 215). 3 credits

CSE 308 Software Engineering
Prerequisite: CSE 219 or ISE 305. 3 credits

CSE 310 Data Communication and Networks
Prerequisites: CSE 214 and 220. Advisory Prerequisite: AMS 310. 3 credits

CSE 323 Human-Computer Interaction
A survey course designed to introduce students to Human-Computer Interaction and prepare them for further study in the specialized topics of their choice. Students will have the opportunity to delve deeper in the course through a course project, and through a two-three week special topic selected at the instructor’s discretion. Prerequisites: CSE 214 or 230. 3 credits

CSE 371 Logic
A survey of the logical foundations of mathematics: development of propositional calculus and quantification theory, the notions of a proof and of a model, the completeness theorem, Gödel’s incompleteness theorem. This course is offered as both CSE 371 and MAT 371. Prerequisites: CSE 150 or CSE 215 or MAT 200. 3 credits

CSE 381 Advanced Game Programming
This course explores the concepts and technologies behind making 3D, networked games. This will include the examination of game engine creation as well as the use of middleware to build graphically sophisticated game systems. Prerequisites: CSE 214 or CSE 230. 3 credits
CSE 408 Network Security
CSE 408 cannot be taken for credit in addition to ESE 360.

EEO 301 Signals and Systems
Prerequisites: Courses in circuits, signals, and vector calculus. Prequisite: Calculus III, Physics I and II, Circuits

EEO 302 Electronics Circuits I
Introduction to electronics, concentrating on the functional devices (diode, transistor, operational amplifier, logic gate) and their basic applications; modeling techniques; elementary circuit design based on devices. Prerequisite: Circuits and Digital Logic

EEO 303 Electromagnetics
Fundamentals of electromagnetic fields, Maxwell’s Equations, plane waves, reflections. Application to transmission lines, propagation, electromagnetic sensors and transducers. Prerequisites: Courses in circuits, signals, and vector calculus.

EEO 304 Nanotechnology, Engineering and Science
The course is targeted at undergraduate students on their early stage of education. Through the examples, exercises, and educational Java applets the course will cover electromagnetic waves and quantum mechanics including the quantum-mechanical origin of the electrical and optical properties of materials and nanostructures. Chemically-directed assembly of nanostructures, biomolecules, traditional and nontraditional methods of nanolithography, interactions between electronic and optical properties. Also the forefront topics such as organic heterostructures, nanotubes, and quantum computing.

EEO 305 Random Signals and Systems
Prerequisites: ESE 305

EEO 306 Random Signals and Systems
Prerequisites: Courses in circuits, signals, and vector calculus. Prequisite: Calculus III, Physics I and II, Circuits

EEO 307 Digital System Specification and Modeling
Introduces concepts of specification and modeling for design at various levels of abstraction. High Level specification language is used for executable models creation, representing possible architecture implementations. Topics include design space exploration through fast simulation and re-use of models and implementation.

EEO 308 Physical Electronics
This course introduces the concepts of impedance matching in radio frequency (RF) circuits, S-parameter and S-matrix, and Smith-Chart. Also, it deals with the theory and principle of various RF components such as transmission lines, waveguides, couplers, and resonators. Students learn how to design and analyze those components using analytical formulas and numerical simulation tools.

EEO 309 Circuits and Digital Logic
Electronics Laboratory I provides students with a hard-ware-based learning environment for hands-on experimentation with computer-based instrumentation and the construction, diagnosis, characterization of a variety of analog and digital electronic circuits. Devices used include resistors, capacitors, diodes, SCR, MOSFET, BJT, opamp, and digital ICs. Students also practice how to communicate effectively through writing reports.

EEO 310 Circuits and Digital Logic
Analytical and multistage amplifiers with bipolar junction transistors (BJT) and field-effect transistors (FET). Biasing in integrated circuits and active loads. Frequency response of common-emitter (common-source), common-base (common-gate), common-collector (common-drain) single BJT (FET) stages. Frequency response of differential-pair, cascode, and multistage circuits. Selection of coupling and by-pass capacitors. Analog integrated circuits. Metal-Oxide-Semiconductor (MOS) digital circuits with emphasis on CMOS, LEC/LAB.

EEO 311 Electronics Circuits II
Differential and multistage amplifiers with bipolar junction transistors (BJT) and field-effect transistors (FET). Biasing in integrated circuits and active loads. Frequency response of common-emitter (common-source), common-base (common-gate), common-collector (common-drain) single BJT (FET) stages. Frequency response of differential-pair, cascode, and multistage circuits. Selection of coupling and by-pass capacitors. Analog integrated circuits. Metal-Oxide-Semiconductor (MOS) digital circuits with emphasis on CMOS, LEC/LAB.

EEO 312 Electronics Circuits III
Differential and multistage amplifiers with bipolar junction transistors (BJT) and field-effect transistors (FET). Biasing in integrated circuits and active loads. Frequency response of common-emitter (common-source), common-base (common-gate), common-collector (common-drain) single BJT (FET) stages. Frequency response of differential-pair, cascode, and multistage circuits. Selection of coupling and by-pass capacitors. Analog integrated circuits. Metal-Oxide-Semiconductor (MOS) digital circuits with emphasis on CMOS, LEC/LAB.

EEO 313 Electronics Circuits IV
Differential and multistage amplifiers with bipolar junction transistors (BJT) and field-effect transistors (FET). Biasing in integrated circuits and active loads. Frequency response of common-emitter (common-source), common-base (common-gate), common-collector (common-drain) single BJT (FET) stages. Frequency response of differential-pair, cascode, and multistage circuits. Selection of coupling and by-pass capacitors. Analog integrated circuits. Metal-Oxide-Semiconductor (MOS) digital circuits with emphasis on CMOS, LEC/LAB.

EEO 314 Electronics Circuits V
Differential and multistage amplifiers with bipolar junction transistors (BJT) and field-effect transistors (FET). Biasing in integrated circuits and active loads. Frequency response of common-emitter (common-source), common-base (common-gate), common-collector (common-drain) single BJT (FET) stages. Frequency response of differential-pair, cascode, and multistage circuits. Selection of coupling and by-pass capacitors. Analog integrated circuits. Metal-Oxide-Semiconductor (MOS) digital circuits with emphasis on CMOS, LEC/LAB.

EEO 315 Electronics Circuits I
Introduction to electronics, concentrating on the functional devices (diode, transistor, operational amplifier, logic gate) and their basic applications; modeling techniques; elementary circuit design based on devices. Prerequisite: Circuits and Digital Logic.

EEO 316 Electronics Circuits II
Differential and multistage amplifiers with bipolar junction transistors (BJT) and field-effect transistors (FET). Biasing in integrated circuits and active loads. Frequency response of common-emitter (common-source), common-base (common-gate), common-collector (common-drain) single BJT (FET) stages. Frequency response of differential-pair, cascode, and multistage circuits. Selection of coupling and by-pass capacitors. Analog integrated circuits. Metal-Oxide-Semiconductor (MOS) digital circuits with emphasis on CMOS, LEC/LAB.

EEO 317 Electronics Circuits III
Differential and multistage amplifiers with bipolar junction transistors (BJT) and field-effect transistors (FET). Biasing in integrated circuits and active loads. Frequency response of common-emitter (common-source), common-base (common-gate), common-collector (common-drain) single BJT (FET) stages. Frequency response of differential-pair, cascode, and multistage circuits. Selection of coupling and by-pass capacitors. Analog integrated circuits. Metal-Oxide-Semiconductor (MOS) digital circuits with emphasis on CMOS, LEC/LAB.

EEO 318 Electronics Circuits IV
Differential and multistage amplifiers with bipolar junction transistors (BJT) and field-effect transistors (FET). Biasing in integrated circuits and active loads. Frequency response of common-emitter (common-source), common-base (common-gate), common-collector (common-drain) single BJT (FET) stages. Frequency response of differential-pair, cascode, and multistage circuits. Selection of coupling and by-pass capacitors. Analog integrated circuits. Metal-Oxide-Semiconductor (MOS) digital circuits with emphasis on CMOS, LEC/LAB.

EEO 319 Electronics Circuits V
Differential and multistage amplifiers with bipolar junction transistors (BJT) and field-effect transistors (FET). Biasing in integrated circuits and active loads. Frequency response of common-emitter (common-source), common-base (common-gate), common-collector (common-drain) single BJT (FET) stages. Frequency response of differential-pair, cascode, and multistage circuits. Selection of coupling and by-pass capacitors. Analog integrated circuits. Metal-Oxide-Semiconductor (MOS) digital circuits with emphasis on CMOS, LEC/LAB.
EST 310 Design of Computer Games
Fundamental ideas underlying the design of games, which occurs before the programming stage. How games function to create experiences, including rule design, play mechanics, game balancing, social game interaction and the integration of visual, audio, tactile and textual elements into the total game experience. Game design documentation and play testing. Students will design their own game during the semester.
Prerequisites: CSE 214 or 230
Advisory Prerequisite: Basic Computer Skills
3 credits

EST 323 Human-Computer Interaction
A survey course designed to introduce students to Human-Computer Interaction and prepare them for further study in the specialized topics of their choice. Students will have the opportunity to delve deeper in the course through a course project, and through a two-three week special topic selected at the instructor's discretion.
Prerequisites: CSE 214 or 220
3 credits

HIN
Hindi

HIN 311 Hindi Conversation and Composition
An advanced course designed to strengthen students' ability to understand, speak, read, and write Hindi beyond the intermediate level. Students learn to read and comprehend a variety of selected texts from their textbook which includes samples from Hindi newspapers, TV, films, journals, and classical and modern literature and to appreciate the cultural nuances of language use. They are also trained to write professionally and/or creatively in Hindi. Not intended for intermediate students with native knowledge of written and spoken Hindi, or for native students who have mastered written and spoken Hindi.
Prerequisite: HIN 212 or placement test
3 credits

HIS
History

HIS 352-H Environmental History of China
The history of interaction between human activities and the natural environment in China, with special attention to ecological consequences of various paradigms of economic development throughout Chinese history. Focus in on the political ecology of state-level societies, and the relationships between cultural ideas, behavioral practices, human health, and environmental change. This course is offered as both AAS 352 and HIS 352.
Prerequisites: U3 or U4 standing; completion of D.E.C. category E
3 credits
New courses and changes Effective Fall 2006

JPN 412 Advanced Japanese IV
An advanced course designed for the fourth-year students of Japanese to strengthen their ability to understand, speak, read, and write Japanese. Students will read a variety of Japanese texts including newspaper/magazine articles, biographies, and literary works and write creatively and/or professionally using sophisticated vocabulary and advanced kanji characters. Students will also be trained to comprehend authentic spoken Japanese, using a variety of audio-visual materials and to communicate in Japanese, applying appropriate socio-cultural norms. Not intended for international students who are part of a two-plus-two or exchange program.
Prerequisite: JPN 411 or placement test
3 credits

JRN 211 News II: Quantitative Literacy Lab
This lab, which must be taken in conjunction with JRN 210, is a ‘quantitative literacy’ immersion lab in the proper use of numbers and statistics in newswriting. Students who pass a proficiency test will be exempt from the attending the lab but all students enrolled in JRN 210 must register for JRN 211 for grading purposes. Satisfactory/Unsatisfactory grading only.
Students must receive a Satisfactory grade in order to continue in the JRN program.
Mandatory Corequisite: JRN 210
0 credits

JRN 475 Undergraduate Teaching Practicum I
Work with a faculty member as an assistant in one of the faculty member’s regularly scheduled courses. The student must attend all classes and carry out tasks assigned by the faculty member to assist in teaching the course. The student will meet with the instructor on a regular basis to discuss intellectual and pedagogical matters relating to the course. Not for major or minor credit.
Prerequisites: U3 or U4; Permission of instructor and undergraduate program director
3 credits, S/U grading

KOR 212 Intermediate Korean II
Intermediate courses in Korean language to develop audiolingual skills and reading and writing abilities. Through the introduction of complex grammatical structures and idioms, speaking, reading, and writing ability in Korean language is further developed.
Prerequisite: KOR 211 or placement test
3 credits

KOR 412 Advanced Korean
An advanced course designed for students who wish to enhance reading comprehension and writing ability in Korean. Reading materials are selected from modern Korean literature, journals, and newspapers. Students are trained in samples of various writing styles. Emphasis is also placed on the idiomatic usage of Korean language and the relation of Korean to Chinese characters.
Prerequisite: KOR 212 or placement test
3 credits

KOR 312 Advanced Korean II
Advanced Korean II is designed for students who have completed at least two years of Korean instruction at the undergraduate level or who already possess a sufficiently high level of fluency. Classes are conducted in Korean. Reading materials, including excerpts from modern Korean literary works, journals, magazines, and newspapers, will be explored and discussed. Other topics such as ancient Korean literature will also be discussed. Through this course students are expected to enhance their ability to grasp the import of literary and academic texts by learning to identify essential points and lines of argument as well as enhance their vocabulary, particularly Sino-Korean terms, and knowledge of idiomatic usage of Chinese-Korean graph dictionaries, including a knowledge of the basic structure of graphs and of the most common component radicals, in their original and abbreviated forms. Students will also learn to research in Korean for their term paper.
Prerequisite: KOR 311 or approval of instructor
3 credits

MAR 384 Diseases of Aquatic Organisms
Fundamental and current issues pertaining to host/pathogen interactions in the aquatic environment. By the end of this course, students should have a basic understanding of disease processes in aquatic organisms; knowledge of the tools used for disease diagnosis; and an appreciation of disease management tools available today. This course will emphasize the role of the environment as an important player in infectious and non-infectious diseases.
Prerequisites: BIO 202 and 203
3 credits

MAR 447 Readings in Marine Science
Tutorial readings in the marine sciences. These courses may be repeated but not more than 3 credits may be used toward Marine Science or Marine Vertebrate Biology major requirements.
Prerequisite: Permission of instructor and SoMAS undergraduate director
1-3 credits

MAT 371 Logic
A survey of the logical foundations of mathematics: development of propositional calculus and quantification theory, the notions of a proof and of a model, the completeness theorem, GÖdel’s incompleteness theorem. This course is offered as both CSE 371 and MAT 371.
Prerequisite: CSE 150 or CSE 215 or MAT 200
3 credits

http://www.stonybrook.edu/ugbulletin
SUPPLEMENT: COURSES

Fall 2008: updates since Spring 2007 are in red

PHI

PHI 382-H The Quantum Moment: Quantum Mechanics in Philosophy, Culture, and Life
This course explores the implications and influence, real and alleged, of quantum mechanics on fields other than physics. What does quantum mechanics mean, if anything, for philosophy, ethics, and social behavior? At the same time, we shall look into how social and cultural influences may have affected the way that quantum mechanics was formulated, and how it has evolved. We shall review the early history of quantum mechanics, and discuss some of the important debates at the founding of quantum mechanics. Students will not be expected to learn the mathematics in depth, only the introduction provided by the instructors aimed at non-science students. Besides readings, the course will also involve plays, films, and guest speakers. Students will be expected to work on a final project, to be presented in class. This course is offered as both PHI 382 and PHI 386.
Prerequisite: One previous course in AAS or PHI
Advisory Prerequisite: Junior or Senior Standing
3 credits

MEC

MEC 262 Engineering Dynamics
Prerequisite: A Grade of “C” or higher in MEC 260

MEC 213 Studies in Nanotechnology
The emerging field of nanotechnology develops solutions to engineering problems by taking advantage of the unique physical and chemical properties of nanoscale materials. This interdisciplinary, co-taught course introduces materials and nano-fabrication methods with applications to electronics, biomedical, mechanical and environmental engineering. Guest speakers and a semester project involve ethics, technology, economic and business implications of nanotechnology. Basic concepts in research and design methodology and characterization techniques will be demonstrated. Course is cross-listed as BME 213, MEC 213, and EST 213 and is required for the Minor in Nanotechnology Studies (NTS).
Prerequisites: PHY 131 or PHY 125; CHE 131 or ESG 198
3 credits

MEC 214 Probability and Statistics for Mechanical Engineers
Foundations of probability and statistics as applied to mechanical measurements and experimentation. Basic statistical analysis of data and assessing likelihood of future events based on past history. Concept of random sampling. Uncertainty analysis and error propagation, using both analytical and graphical tools. Assessing dominant sources of error in measurements.
Prerequisite: MAT 126 or 131 or 141 or AMS 151; MEC major or permission of instructor
Corequisite: MAT 127 or 132 or 142 or 171 or AMS 161
1 credit

MEC 301 Thermodynamics
Prerequisites: MEC Major; AMS 261 or MAT 203; PHY 125 or 131/135 or 141

MEC 363 Mechanics of Solids
Prerequisite: A Grade of “C” or higher in MEC 260

MEC 364 Introduction to Fluid Mechanics
Prerequisite: MEC Major; MEC 262
Pre- or Corequisite: MEC 301

MEC 391 Introduction to Automotive Engineering I
Prerequisite: MEC Major, MEC 262 and 363

MEC 392 Introduction to Automotive Engineering II
Prerequisite: MEC Major, MEC 391

PHY

PHY 122-E Physics for the Life Sciences II
Second part of a calculus-based introduction to physics with applications to biology, primarily for students majoring in biological sciences or pre-clinical programs. Topics include electromagnetism, optics, acoustics, and radiation phenomena. Three lecture hours and one recitation hour per week. Laboratory component, PHY 124, must be taken concurrently; a common grade for both courses will be assigned. Not for credit in addition to PHY 122/124, 126, 127, or 142.
Corequisite: C or higher in PHY 124
3 credits

PHY 126-E Classical Physics B
Second of a three-part sequence for physical-sciences or engineering majors. It focuses on the mechanics of rigid bodies, on fluids, waves, thermodynamics, and optics. Three lecture hours, one recitation hour, and two laboratory hours per week. Not for credit in addition to PHY 122/124, 132/134, or 142.
Prerequisite: C or higher in PHY 125 or 131/133 or 141
Corequisite: MAT 126, 132, 142, 171 or AMS 161 or level 7 or higher on math placement exam
3 credits

PHY 127-E Classical Physics C
Third of a three-part sequence for physical-sciences or engineering majors. It focuses on electromagnetism using the concepts of vector fields and scalar potentials, and on DC and AC electric circuits. Calculus is used concurrently with its development in MAT 126. Three lecture hours, one recitation hour, and two laboratory hours per week. Not for credit in addition to PHY 122/124, 132/134, or 142.
Prerequisite: C or higher in PHY 125 or 131/133 or 141
Corequisite: MAT 126, 132, 142, 171 or AMS 161 or level 7 or higher on math placement exam
4 credits

PHY 132-E Classical Physics II
Second part of a two-semester physics sequence for physical-sciences or engineering majors who have a strong mathematics background and are ready for a fast learning pace. It covers electromagnetism, circuit theory circuit, and optics. Calculus is used concurrently with its development in MAT 123. Three lecture hours and one recitation hour per week. Not for credit in addition to PHY 122/124, 126, 127, or 142.
Prerequisite: C or higher in PHY 131/133 or 141
Corequisite: PHY 134; MAT 132 or 142 or 127 or 171 or AMS 161
3 credits

PHY 142-E Classical Physics II: Honors
Second part of a demanding two-semester sequence for students with the strongest background, interests and abilities in science and mathematics. The topics covered in PHY 142 are similar to those in PHY 132, but are treated in more depth in a small-class setting. Students may transfer to PHY 132 at any time during the first half of each semester without penalty. Three lecture hours, one recitation hour, and one two-hour laboratory per week. PHY 142 may not be taken for credit in addition to PHY 122/124, 126, 127, or 132.
Prerequisite: C or higher in PHY 141 or permission of department
Corequisite: MAT 132 or 142 or 127 or 171 or AMS 161
4 credits

PHY 315-E Hands-On Science with Cosmic Rays: Experimental Research for Non-Physics Majors (course name change)
Cosmic rays are a ubiquitous source of background radiation here on Earth, constantly replenishing short-lived radioactive materials (like Carbon 14) and perhaps providing the engine that has driven evolution over the ages. This seminar will provide an interactive opportunity to study the properties of cosmic rays using modern particle detectors and cyberinfrastructure as an introduction to the scientific method, experimental techniques, and data analysis. Classes will integrate group discussions with hands-on investigation in small teams, and then joint brainstorming sessions to analyze and understand the data to further improve the experimental measurements. Students will use computers to take and analyze data, to post their results, and to interact with each other and the course staff. Intended for non-Physics majors.
Prerequisites: DEC C, U2 standing or higher
3 credits

PHY 382-H The Quantum Moment: Quantum Mechanics in Philosophy, Culture, and Life
This course explores the implications and influence, real and alleged, of quantum mechanics on fields other than physics. What does quantum mechanics mean, if anything, for philosophy, ethics, and social behavior? At the same time, we shall look into how social and cultural influences may have affected the way that quantum mechanics was formulated and how it has evolved. We shall review the early history of quantum mechanics, and discuss some of the important debates at the founding of quantum
mechanics. Students will not be expected to learn the mathematics in depth, only the introduction provided by the instructors aimed at non-science students. Besides readings, the course will also involve plays, films, and guest speakers. Students will be expected to work on a final project, to be presented in class. This course is offered as both PHI 382 and PHY 382.

Prerequisite: 100-level Physics or Philosophy course or U3 or U4 standing

3 credits

POL

Political Science

POL 310-F Immigration and Refugee Politics

Provides an introduction to the politics of immigration and refugees by considering the impact of the movement and resettlement of foreigners across international borders on states, societies, and international relations. We will address several themes that generate heated debate within the topic of migration including, why people move, the impact of ethnic and religious diversity, state control over its borders, racism and xenophobia, immigrant integration strategies, citizenship policies, refugee movements, globalization, security and human smuggling.

Prerequisite: U3 or U4 standing or approval of professor

3 credits

POL 345 Changes in the World Order: International Politics Since 1945

An analysis and discussion of such terms and concepts as sovereignty, power, diplomacy, ideology, imperialism, containment, détente, disarmament, and preemptive defense, and how these terms can be useful in understanding international politics since the end of World War II. Students will use these concepts along with case studies, research projects, and presentations to make generalizations concerning events that have affected the international system of states since 1945.

Prerequisites: U3 or U4 standing and POL 101 or 103

3 credits

POL 406 Strategic Models of Politics

An introduction to formal political theory. Examination of strategic interaction of political actors in American politics, international relations, and public policy. The course primarily focuses on game theoretic and other quantitative models. Prerequisite: POL 201 or equivalent and U3 or U4 status. Students should be comfortable with high school algebra.

Advisory Prerequisites: MAT 126 or 131 or 141 or AMS 151

3 credits

RUS

Russian Language and Literature

RUS 411 Advanced Russian I (Fourth-year)

A proficiency-oriented course intended for fourth-year students of Russian who have completed seven semesters of college-level instruction or the equivalent. The course focuses on advanced topics in grammar, syntax, word formation and derivation and sets as a goal an active vocabulary of 2,500 words. Particular attention will be devoted to oral and written skills through oral presentations and essays respectively. The expected outcome is language ability ranging from advanced low to advanced mid as determined by ACTFL Proficiency Guidelines.

Prerequisite: U3 or U4 standing or approval of professor

3 credits

RUS 412 Advanced Russian II (Fourth-year)

A proficiency-oriented course intended for fourth-year students of Russian who have completed seven semesters of college-level instruction or the equivalent. The course focuses on advanced topics in grammar, syntax, word formation and derivation and sets as a goal an active vocabulary of 2,500 words. Particular attention will be devoted to oral and written skills through oral presentations and essays respectively. The expected outcome is language ability ranging from advanced low to advanced mid as determined by ACTFL Proficiency Guidelines.

Prerequisite: RUS 411 or equivalent

3 credits

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Fall 2007: New courses and changes since Spring 2007

AAS

Asian and Asian American Studies

AAS 338-J Contemporary India: History, Politics, and Diplomacy (Post-1947)
new course
Study of the forces shaping India’s post-independence history, domestic politics, and foreign diplomacy. As the world’s largest democracy, second most populous nation, and Asia’s second fastest growing economy, its impact on the international scene in the coming years will be carefully analyzed. The course, taught by a former Ambassador, will also focus on emerging trends in India-U.S. relations and impact of the Indian diaspora. This course is offered as both AAS 338 and POL 338.
Prerequisites: AAS 201 or POL 101; U3 or U4 standing
3 credits

AAS 339-J Contemporary China: History, Politics, and Diplomacy (Post-1949)
new course
This course will analyze the evolution of major events in contemporary China following the communist revolution that led to the establishment of the People’s Republic in 1949. The course, taught by a former Ambassador, will examine major political, economic, and social developments in light of both their general global impact and their particular relationship with the U.S. This course is offered as both AAS 339 and POL 339.
Prerequisites: AAS 219 or POL 101; U3 or U4 standing
3 credits

AAS 340-J Topics in Asian History
revised description
Semester supplements to this Bulletin contain specific descriptions when course is offered. Past topics have included titles such as Indian Grammatical Tradition, English in Asia, and Indian Economics. Designed for upper-division students, this course provides an in-depth study of a specific topic within humanities disciplines such as history, economics, political science, and linguistics. Students will be expected to demonstrate an understanding of the methods social scientists use to explore social phenomena, and knowledge of the major concepts, models, and issues of the social science discipline(s) studied. May be repeated for credit as the topic changes.

AAS 392-F Social Science Topics in Asian and Asian American Studies
revised description
Semester supplements to this Bulletin contain specific descriptions when course is offered. Topics may include titles such as Indian Grammatical Tradition, English in Asia, and Indian Economics. Designed for upper-division students, this course provides an in-depth study of a specific topic within social sciences disciplines such as history, economics, political science, and linguistics. Students will be expected to demonstrate an understanding of the methods social scientists use to explore social phenomena, and knowledge of the major concepts, models, and issues of the social science discipline(s) studied. May be repeated for credit as the topic changes.

AAS 394-J Topics in Asian Art
revised description
Semester supplements to this Bulletin contain specific descriptions when course is offered. Past topics have included titles such as Indian Grammatical Tradition, English in Asia, and Indian Economics. Designed for upper-division students, this course provides an in-depth study of a specific topic relating to non-Western world civilizations. Students will be expected to demonstrate either a knowledge of a broad outline of world history, or the distinctive features of the history, institutions, economy, society, and culture of one non-Western civilization. May be repeated for credit as the topic changes.
This course is offered as both AAS 394 and ARH 394.

AAS 391-G Humanities Topics in Asian and Asian American Studies
revised description
Semester supplements to this Bulletin contain specific descriptions when course is offered. Past topics have included titles such as Sikhism; Introduction to Indian Philosophy; Modern Indian Literature; and Appreciating Indian Music. Semester supplements to this Bulletin contain specific descriptions when course is offered. May be repeated for credit as the topic changes. Designed for upper-division students, this course provides an in-depth study of a specific topic within humanities disciplines such as music, art, literature, religion, and philosophy. Students will be expected to demonstrate knowledge of the conventions and methods used in the humanities discipline(s) studied. May be repeated for credit as the topic changes.

AAS 392-F Social Science Topics in Asian and Asian American Studies
revised description
Semester supplements to this Bulletin contain specific descriptions when course is offered. Topics may include titles such as Indian Grammatical Tradition, English in Asia, and Indian Economics. Designed for upper-division students, this course provides an in-depth study of a specific topic within social sciences disciplines such as history, economics, political science, and linguistics. Students will be expected to demonstrate an understanding of the methods social scientists use to explore social phenomena, and knowledge of the major concepts, models, and issues of the social science discipline(s) studied. May be repeated for credit as the topic changes.

AAS 394-J Topics in Asian Art
revised description
Semester supplements to this Bulletin contain specific descriptions when course is offered. Past topics have included titles such as Indian Grammatical Tradition, English in Asia, and Indian Economics. Designed for upper-division students, this course provides an in-depth study of a specific topic relating to non-Western world civilizations. Students will be expected to demonstrate either a knowledge of a broad outline of world history, or the distinctive features of the history, institutions, economy, society, and culture of one non-Western civilization. May be repeated for credit as the topic changes.
This course is offered as both AAS 394 and ARH 394.

ACH

Arts, Culture, and Humanities

ACH 101 Introduction to Stony Brook
revised description
A seminar intended to integrate students into the Undergraduate Arts, Culture, and Humanities and into the University community by providing information about Stony Brook and a forum for discussion of values, intellectual and social development, and personal as well as institutional expectations. Required for all first year students. Not for credit in addition to LDS 101, GLS 101, HDV 101, ITS 101, SSQ 101, SBU 101, LHD 101, and LSE 101.
1 credit, S/U grading

AFH

African Studies in Humanities

AFH 390-391-G Topics in Africana Studies
revised description
Semester supplements to this Bulletin contain specific descriptions when course is offered. Past topics have included titles such as Black Women Writers; Autobiography and Biography as Black History; and The African Novel: Origins and Development. Semester supplements to this Bulletin contain specific descriptions when course is offered. May be repeated for credit as the topic changes. Designed for upper-division students, this course provides an in-depth study of a specific topic within humanities disciplines such as music, art, literature, religion, and philosophy. Students will be expected to demonstrate knowledge of the conventions and methods used in the humanities discipline(s) studied. May be repeated for credit as the topic changes.

AFS

African Studies in Social and Behavioral Sciences

AFS 396-K Topics in African American History
revised description
Semester supplements to this Bulletin contain specific descriptions when course is offered. Topics may include titles such as Urban African-American History Since 1865; and Slavery, Abolition, and Emancipation 1600-Present. Designed for upper-division students, this course provides an in-depth study of a specific topic relating to American history. Students are expected to demonstrate knowledge of 1) a basic narrative of African American history, political, economic, social, and cultural, including knowledge of unity and diversity within African American society; 2) knowledge of common institutions in African society and how they have affected different groups; and 3) an understanding of America’s evolving relationship with the rest of the world. May be repeated for credit as the topic changes.
AMS
Applied Mathematics and Statistics
AMS 373 Analysis of Algorithms
deletion

ANT
Cultural Anthropology and Archaeology
ANT 359 The Archaeology of Food
new course
Explores the archaeological study of food and foodways. The emphasis is on the social aspects of food, particularly its roles in past power structures, social relationships, conceptions of identity, ritual practices, and gender roles. Also covers the theoretical and methodological approaches archaeologists use to study food in the past. Prerequisite: ANT 104 3 credits

ANT 396-I Topics in Anthropology and European Traditions
revised description
Semester supplements to this Bulletin contain specific descriptions when course is offered. Topics may include titles such as The Mediterranean, and Society and Culture in Scandinavia. Designed for upper-division students, this course provides an in-depth study of a specific topic relating to Western civilization. Students will be expected to demonstrate knowledge of the development of the distinctive features of the history, institutions, economy, society, and culture of Western civilization, and relate it to that of other regions in the world. May be repeated for credit as the topic changes.

ARH
Art History
ARH 330-G Public Art and Urban Design in New York City
revised D.B.C.

ARH 390-I Topics in European Art
revised description
Semester supplements to this Bulletin contain specific descriptions when course is offered. Past topics have included titles such as Mythology in Art; Italian Renaissance Sculpture. Designed for upper-division students, this course provides an in-depth study of a specific topic relating to Western civilization. Students will be expected to demonstrate knowledge of the development of the distinctive features of the history, institutions, economy, society, and culture of Western civilization, and relate it to that of other regions in the world. May be repeated for credit as the topic changes.

ARH 391-G Topics in Global Art
revised description
Semester supplements to this Bulletin contain specific descriptions when course is offered. Topics may include titles such as The Art of India and The Art of the Silk Road. Designed for upper-division students, this course provides an in-depth study of a specific topic relating to non-Western world civilizations. Students will be expected to demonstrate either knowledge of a broad outline of world history, or the distinctive features of the history, institutions, economy, society, and culture of one non-Western civilization. May be repeated for credit as the topic changes.

ARS
Studio Art
ARS 390-G Topics in Studio Art
revised description
Semester supplements to this Bulletin contain specific descriptions when course is offered. Past topics have included titles such as Web Art and Design; Public Art; and 2-D and 3-D Animation. Semester supplements to this Bulletin contain specific descriptions when course is offered. May be repeated for credit as the topic changes. Designed for upper-division students, this course provides an in-depth study of a specific topic within humanities disciplines such as music, art, literature, religion, and philosophy. Students will be expected to demonstrate knowledge of the conventions and methods used in the humanities discipline(s) studied. May be repeated for credit as the topic changes.

BIO
Biology
BIO 348 Diversity and Evolution of Reptiles and Amphibians
new course
The course will survey the diversity and natural history of the major groups of reptiles and amphibians, including snakes, lizards, turtles, crocodilians, frogs, and salamanders. Extinct groups (such as dinosaurs and pterosaurs) will also be covered. Furthermore, the course will showcase how studies of reptiles and amphibians have increased our general understanding of evolution and ecology, and will illustrate how diverse aspects of organismal biology (such as physiology, ecology, behavior, morphology) evolve and are interconnected. Prerequisite: BIO 201 3 credits

BME
Biomedical Engineering
BME 212 Biomedical Engineering Research Fundamentals
revised title and prerequisites
Prerequisites: BIO 100 and MEC 260 Pre- or Corequisite: BIO 202 or 203

BME 301 Bioelectricity
revised prerequisites
Prerequisites: ESE 271; ESE 111 (or ESE 124 or MEC 111 or MEC 112); BIO 202 or 203; BME 212

BME 303 Biomechanics
revised prerequisites
Prerequisites: MEC 260; BIO 202 or 203; ESE 111 (or ESE 130 or ESE 124 or MEC 111 or MEC 112); BME 212

BME 404 Essentials of Tissue Engineering
addition of advisory prerequisites
Prerequisites: BIO 202 or 203; CHE 132 Advisory prerequisites: CHE 321 and 322

CHE
Chemistry
CHE 477 Undergraduate Teaching Practicum III
new course
Work with a faculty member as an assistant in one of the faculty member's regularly scheduled classes. Students may participate only in courses in which they have excelled. May be repeated. Prerequisite: CHE 470; permission of instructor and department 0 credits, SU grading
CSE
Computer Science

CSE 300 Writing in Computer Science
revised grading basis; now letter-graded
1 credit

CSE 373 Analysis of Algorithms
revised description
Mathematical analysis of a variety of computer algorithms including searching, sorting, matrix multiplication, fast Fourier transform, and graph algorithms. Time and space complexity. Upper-bound, lower-bound, and average-case analysis. Introduction to NP completeness. Some machine computation is required for the implementation and comparison of algorithms. This course is offered as CSE 373 and MAT 373.

CSE 378 Introduction to Robotics
revised description, prerequisites
Introduces basic concepts in robotics including coordinate transformation, kinematics, dynamics, Laplace transforms, equations of motion, feedback and feed-forward control, and trajectory planning. Covers simple and complex sensors (such as cameras), hybrid and behavior based control and path planning. Concepts are illustrated through laboratories using the LEGO Robot Kit. Not for credit in addition to MEC 460. Prerequisites: AMS 161 or MAT 127 or 132 or 142; AMS 210 or MAT 211 or MEC 262.
Advisory prerequisite: CSE 130 or equivalent

CSE 380 Computer Game Programming
new course
An introduction to the fundamental concepts of computer game programming. Students design and develop original games for PCs applying proven game design and software engineering principles. Prerequisite: CSE 214 or 230.
3 credits

DAN
Dance

Many THR courses now use the new DAN designator.

DAN 102-D Introduction to World Dance Cultures
An introduction to the properties and elements of dance in order to understand and appreciate it in a variety of contexts. Dance is considered as art, recreation, social interaction, and entertainment through investigation of societal attitudes, cultural norms, and creative styles of individuals. Formerly offered as THR 102. Not for credit in addition to THR 102.
3 credits

DAN 164-D Tap Technique and History
The fundamentals, technique, and history of tap dance. Basic technique, time step, and combinations are covered. The historical component traces the development of tap from its roots in the music of jazz to present-day expressions. Various traditional styles, individual artists, and current trends are discussed. Formerly offered as THR 164. Not for credit in addition to THR 164.
3 credits

DAN 165-D Contemporary Dance I
The fundamentals, technique, and history of modern dance. Basic principles of alignment, centering, placement, and modern technique are introduced. The historical component includes various styles within the field of modern dance, individual artists who have contributed to the field, and the place of modern dance in society and culture at large. Formerly offered as THR 165. Not for credit in addition to THR 165.
3 credits

DAN 166-D Ballet Technique I
The fundamentals, technique, and history of ballet. The course covers the development of body alignment through stretching and strengthening exercises; simple barre exercises, center floor combinations, and movement phrases to music. The historical component includes the development of ballet from the 15th century to the present day. Various styles, companies, techniques, and individual artists are discussed. Formerly offered as THR 166. Not for credit in addition to THR 166.
3 credits

DAN 167-D Jazz Dance Technique I
The fundamentals, technique, and history of jazz dance. Basic principles of alignment, centering, placement, and jazz technique are covered. The historical component includes various styles within the field of jazz dance, individual artists who have contributed to the field, and the place of jazz dance in society and culture at large. Formerly offered as THR 167. Not for credit in addition to THR 167.
3 credits

DAN 168-D World Dance I
An introduction to dance traditions around the globe. Cultural values, religious beliefs, and social systems are investigated for their influence on the dance. Formerly offered as THR 168. Not for credit in addition to THR 168.
3 credits

DAN 264-D Movement Awareness and Analysis
A course covering the fundamentals of movement, linking theory and techniques from the disciplines of dance and theatre. Using anatomical principles to understand effective use of the skeletal and muscular systems, students are guided, through an interplay of theory and practical work, toward efficient posture and movement habits and test the presence, action, and performance necessary for effective communication and the development of a physical language. Formerly offered as THR 264. Not for credit in addition to THR 264.
3 credits

DAN 353 Special Topics in Dance Performance
A concentration in one aspect of dance. Semester supplements to this Bulletin contain specific description when course is offered. May be repeated for credit as the topic changes. Formerly offered as THR 353. Not for credit in addition to THR 353. Prerequisites: THR 105; permission of instructor.
3 credits

DAN 365 Contemporary Dance II
Further development of modern dance training, devoted to improvement of style, technique, and physical and mental focus. Formerly offered as THR 365. Not for credit in addition to THR 365. Prerequisite: DAN 165 (or the former THR 165).
3 credits

DAN 366 Ballet Technique II
Further development of ballet training, devoted to improving style, technique, and physical and mental focus. Formerly offered as THR 366. Not for credit in addition to THR 366. Prerequisite: DAN 166 (or the former THR 166)
3 credits

DAN 367 Jazz Dance Technique II
Further development of jazz dance training, devoted to improvement of style, technique, and physical and mental focus. Formerly offered as THR 367. Not for credit in addition to THR 367. Prerequisite: DAN 167 (or the former THR 167)
3 credits

DAN 368 Dance Improvisation
The practice of dance and movement investigation through discipline, spontaneity, and awareness. Skills in improvisation will be developed through creative projects and experiments in dance. Formerly offered as THR 368. Not for credit in addition to THR 368. Prerequisite: DAN 165, 166, or 167 (or the former THR 165, 166, or 167)
3 credits

DAN 369-J World Dance II
The fundamentals, technique, and history of a specific non-Western dance style. Lectures cover the origins of the dance form, the people who perform the dance, and the place of the dance in society and culture. Studio training includes the physicality of the dance. Semster Supplements to this Bulletin contain description when course is offered. May be repeated as the topic changes. Formerly offered as THR 369. Not for credit in addition to THR 369. Prerequisites: Completion of D.E.C. categories A, B, and D.
3 credits

DAN 400 Performance Dance Ensemble
Concentrated development of dance technique and performance skills through rehearsal and presenta- tion of choreography. May be repeated once. Formerly offered as THR 400. Not for credit in addition to THR 400. Prerequisites: Audition; permission of instructor.
3 credits

DAN 465 Contemporary Dance III
Advanced study in modern dance techniques, combining dance training, compositional skills, and performance technique. Formerly offered as THR 465. Not for credit in addition to THR 465. Prerequisite: DAN 365 (or the former THR 365)
3 credits

DAN 467 Jazz Dance Technique III
Advanced study of jazz techniques, combining dance training, compositional skills, and performance technique. Formerly offered as THR 467. Not for credit in addition to THR 467. Prerequisite: DAN 367 (or the former THR 367)
3 credits

DAN 468 Choreography
Training in the craft of choreography, the creation of dance, using applied dance techniques, improvisational tools, perceptual skills, and investigations. Students create studies and original dance compositions and critique the various developmental stages to modify and expand their creations. The theory presented contains basic aesthetic concepts that contribute to the structure and form of dance. Formerly offered as THR 468. Not for credit in addition to THR 468. Prerequisite: DAN 463 or 467 (or the former THR 465 or 467)
3 credits
DAN 475, 476 Undergraduate Teaching Practica I, II new courses
Work with a faculty member as an assistant in one of the faculty member’s regularly scheduled classes. The student is required to attend all the classes, do all the regularly assigned work, and meet with the faculty member at regularly scheduled times to discuss the intellectual and pedagogical matters relating to the course. In DAN 476, students assume greater responsibility in such areas as leading discussions and analyzing results of tests that have already been graded. Students may not serve as teaching assistants in the same course twice. Not for major credit. Prerequisites to DAN 475: Dance minor; U3 or U4 standing; permission of instructor and department
Prerequisites to DAN 476: DAN 475; permission of instructor and department 3 credits per course, S/U grading

DAN 487 Independent Research new course
Design and develop a research project selected by the student in consultation with a faculty member. May be repeated. Prerequisite: Permission of department 0-6 credits

DAN 488 Internship new course
Participation in a professional organization that creates and presents public performances, creates and presents, to the public, works in the media arts, or concerns itself with the management or funding of arts organizations. Students are required to submit written progress reports to their department sponsors and a final written report to the department faculty. Supplementary reading may be assigned. May be repeated up to a limit of 12 credits. Prerequisites: Permission of instructor and department 0-6 credits, S/U grading

ECON Economics

ECON 358-J Topics in Developing Economies revised description
Semester supplements to this Bulletin contain specific descriptions when course is offered. Topics may include titles such as The Economics of India and Chinese Economic Development. Designed for upper-division students, this course provides an in-depth study of a specific topic relating to non-Western world civilizations. Students will be expected to demonstrate either a knowledge of a broad outline of world history, or the distinctive features of the history, institutions, economy, society, and culture of one non-Western civilization. May be repeated for credit as the topic changes.

EGL English

EGL 204 Literary Analysis and Argumentation revised description
An introduction to the techniques and terminology of close literary analysis and argumentation as applied to poetry, fiction, and drama. The course includes frequent demanding writing assignments
and is designed for students beginning their major study in English. Transfer credit is not accepted for this course.

EGL 320-G, 321-G, 322-G Modern and Contemporary Literature revised title, description, and prerequisites
The study of literature in English from the year 1900 to the present; material may be drawn from British literature, American literature, or any other area that produces literature written in English. Pre- or Corequisite: EGL 204 Advisory Prerequisite: EGL 218, 224, or 226

EGL 369-G Topics in Ethnic American Studies in Literature revised description
Semester supplements to this Bulletin contain specific descriptions when course is offered. Past topics include titles such as Italian American and Native American Women Writers, and African American Humor. Semester supplements to this Bulletin contain specific descriptions when course is offered. May be repeated for credit as the topic changes. Designed for upper-division students, this course provides an in-depth study of a specific topic within humanities disciplines such as music, art, literature, religion, and philosophy. Students will be expected to demonstrate knowledge of the conventions and methods used in the humanities discipline(s) studied. May be repeated for credit as the topic changes.

EGL 390-G, 391-G, 392-G, 393-G Topics in Literary and Cultural Studies revised description
Semester supplements to this Bulletin contain specific descriptions when course is offered. Possible topics include Black Women’s Literature and African American Humor. Semester supplements to this Bulletin contain specific descriptions when course is offered. May be repeated for credit as the topic changes. Designed for upper-division students, this course provides an in-depth study of a specific topic within humanities disciplines such as music, art, literature, religion, and philosophy. Students will be expected to demonstrate knowledge of the conventions and methods used in the humanities discipline(s) studied. May be repeated for credit as the topic changes.

EGL 395-I Topics in Literary and Cultural Studies of Europe revised description
Semester supplements to this Bulletin contain specific description when course is offered. Past topics have included titles such as Modern European Drama, War Poetry, and Ancient to Modern Fictional Narrative. Designed for upper-division students, this course provides an in-depth study of a specific topic relating to Western civilization. Students will be expected to demonstrate knowledge of the development of the distinctive features of the history, institutions, economy, society, and culture of Western civilization, and relate it to that of other regions in the world. May be repeated for credit as the topic changes.

EGL 396-I, 397-I, 398-I Topics in Literary and Cultural Studies in Asia, Africa, and Latin America revised description
Semester supplements to this Bulletin contain specific descriptions when course is offered. Topics may include titles such as South African Women Writers; Contemporary Latin American Fiction; and Haiku in Japanese Society. Designed for upper-division students, this course provides an in-depth study of a specific topic relating to non-Western world civilizations. Students will be expected to demonstrate either a knowledge of a broad outline of world history, or the distinctive features of the history, institutions, economy, society, and culture of one non-Western civilization. May be repeated for credit as the topic changes.

ESE Electrical Engineering

ESE 224 Computer Techniques for Electronic Design II new course
Introduces C++ programming language for problem solving in electrical and computer engineering. Topics include C++ structures, classes, abstract data types, and code reuse. Basic object-oriented programming concepts as well as fundamental topics of discrete mathematics and algorithms are introduced. Prerequisite: ESE 124
3 credits

ESE 300 Technical Communication for Electrical and Computer Engineers revised title, description, prerequisites, credits, grading basis
Topics include how technical writing differs from other forms of writing, the components of technical writing, technical style, report writing, technical definitions, proposal writing, writing by group or team, instructions and manuals, transmittal letters, memoranda, abstracts and summaries, proper methods of documentation, presentations and briefings, and analysis of published engineering writing. Also covered is the writing of resumes and cover letters. Prerequisite: WRT 102 Pre- or Corequisite: ESE 314 or 324 or 380 or 382
3 credits

GEO Geosciences

GEO 111 Environmental Geology Laboratory deleted

GER German Language and Literature

GER 313 German Vocabulary in Conceptual Groups revised description
The study of German vocabulary in so-called “conceptual groups” that reflect the world of nature (flowers, etc.) and culture (musical instruments, etc.). The objective is primarily to increase our stock of words and practice using them in context, but also to enrich our knowledge of selected words by examining significant moments or developments in their histories.

GER 475 Undergraduate Teaching Practicum in German I new course
Each student conducts a regular problem or tutorial section that supplements a regular language course under the guidance of a master teacher.

http://www.stonybrook.edu/ugbulletin
Responsibilities may include preparing material for discussion and helping students with problems. Not for major or minor credit.

Prerequisites: Fluency in German; permission of instructor and department

3 credits, S/U grading

GER 476 Undergraduate Teaching Practicum in German II

new course

Work with a faculty member as an assistant in one of the faculty member’s regularly scheduled classes. Students assume greater responsibility in such areas as leading discussions and analyzing results of tests that have already been graded. Students may not assist in the same course twice.

Prerequisites: Fluency in German; permission of instructor and department

3 credits, S/U grading

GLS

Global Studies

GLS 101 Introduction to Stony Brook

revised description

A seminar intended to integrate students into the Undergraduate College of Global Studies and into the University community by providing information about Stony Brook and a forum for discussion of values, intellectual and social development, and personal as well as institutional expectations. Required for all first year students. Not for credit in addition to ACH 101, LDS 101, HDV 101, ITS 101, SSO 101, SBU 101, LHD 101, and LSE 101.

1 credit, S/U grading

GLS 102 Undergraduate College Seminar: Global Studies

revised description

A seminar for all first-year students in the Undergraduate College of Global Studies. Seminar topics vary annually by section and cover a variety of subjects under the general scope of Global Studies. Required for all first year students. Not for credit in addition to ACH 102, HDV 102, ITS 102, LDS 102, or SSO 102.

Prerequisite: Admission to the GLS Undergraduate College

1 credit, ABC/U grading

HDV

Human Development

HDV 101 Introduction to Stony Brook

revised description

A seminar intended to integrate students into the Undergraduate College of Human Development and into the University community by providing information about Stony Brook and a forum for discussion of values, intellectual and social development, and personal as well as institutional expectations. Required for all first year students. Not for credit in addition to ACH 101, LDS 101, GLS 101, ITS 101, SSO 101, SBU 101, LHD 101, and LSE 101.

1 credit, S/U grading

HDV 102 Undergraduate College Seminar: Human Development

revised description

A seminar for all first-year students in the Undergraduate College of Human Development. Seminar topics vary annually by section and cover a variety of subjects under the general scope of Human Development. Required for all first year students. Not for credit in addition to ACH 102, GLS 102, ITS 102, LDS 102, or SSO 102.

Prerequisite: Admission to the HDV Undergraduate College

1 credit, ABC/U grading

HIS

History

HIS 330-J Topics in Middle Eastern History

revised description

Semester supplements to this Bulletin contain specific descriptions when course is offered. Topics may include titles such as Ancient Near Eastern Culture; Ancient Mesopotamia; and The Politics of the Israeli/Arab Conflict. Required for upper-division students, this course provides an in-depth study of a specific topic relating to non-Western world civilizations. Students will be expected to demonstrate either a knowledge of a broad outline of world history, or the distinctive features of the history, institutions, economy, society, and culture of one non-Western civilization. May be repeated for credit as the topic changes.

HIS 340-J Topics in Asian History

revised description

Semester supplements to this Bulletin contain specific descriptions when course is offered. Past topics have included titles such as Late Imperial China; The Chinese Diaspora; and Overseas Chinese and Chinatowns. Designed for upper-division students, this course provides an in-depth study of a specific topic relating to non-Western world civilizations. Students will be expected to demonstrate either a knowledge of a broad outline of world history, or the distinctive features of the history, institutions, economy, society, and culture of one non-Western civilization. May be repeated for credit as the topic changes. This course is offered as both AAS 340 and HIS 340.

His 352-H Environmental History of China

deleted (no longer crosslisted with AAS 352)

HIS 363-F Topics in American History

revised description

Semester supplements to this Bulletin contain specific descriptions when course is offered. Topics may include titles such as American Cars and Highways, Radio and Television, and Disney’s America. Designed for upper-division students, this course provides an in-depth study of a specific topic within social sciences disciplines such as history, economics, political science, and linguistics. Students will be expected to demonstrate an understanding of the methods social scientists use to explore social phenomena, and knowledge of the major concepts, models, and issues of the social science discipline(s) studied. May be repeated for credit as the topic changes.

HIS 399-K Topics in U.S. History

revised description

Designed for upper-division students, this course provides an in-depth study of a specific topic relating to American history. With a focus on U.S. history, topics may include the rise of the American corporation in the 19th and 20th centuries; economic history and changing population patterns; and popular music and society. Semester supplements to this Bulletin contain specific descriptions when course is offered. May be repeated for credit as the topic changes.

JRN

Journalism

JRN 285 Colloquium on the News

Experimental course; for Spring 2006 only

This course traces the history of the American press from pre-American Revolution to post-internet revolution, and previews the next decade. The course will examine the political, economic, and technological forces that have shaped the news media and how the media, in turn, has shaped American government and society. Topics will include press freedom, the rise of the popular press, war and the press, investigative journalism, and the impact of 24/7 broadcast and online journalism. Considered against this history will be an examination of the ongoing debate over the essential mission of American journalism: to reflect reality or help change it.

3 credits

JRN 280 History and Future of the American Press

Experimental course; for Spring 2006 only

This course traces the history of the American press from pre-American Revolution to post-internet revolution, and previews the next decade. The course will examine the political, economic, and technological forces that have shaped the news media and how the media, in turn, has shaped American government and society. Topics will include press freedom, the rise of the popular press, war and the press, investigative journalism, and the impact of 24/7 broadcast and online journalism. Considered against this history will be an examination of the ongoing debate over the essential mission of American journalism: to reflect reality or help change it.

3 credits
This course is designed to introduce students to the journalistic process and expose them to some of the leading journalists and newsmakers in the area. Students will be expected to do research on timely issues in the news and prepare questions for periodic visitors to the class who will conduct a press conference. Students will be expected to learn basic research and interviewing skills, as well as develop an appreciation for current issues in the news.

1 credit

**LAC**

Latin American and Caribbean Studies

**LAC 380 Topics in Latin American Studies**

Semester supplements to this Bulletin contain specific description when course is offered. Topics may include titles such as Literature of the Dominican Republic, and Latinas: History, Society, and Culture. Designed for upper-division students, this course provides an in-depth study of a specific topic relating to non-Western world civilizations. Students will be expected to demonstrate either a knowledge of a broad outline of world history, or the distinctive features of the history, institutions, economy, society, and culture of one non-Western civilization. May be repeated for credit as the topic changes.

1 credit

**LDS**

Leadership and Service

**LDS 101 Introduction to Stony Brook**

A seminar intended to integrate students into the Undergraduate College of Leadership and Service and into the University community by providing information about Stony Brook and a forum for discussion of values, intellectual and social development, and personal as well as institutional expectations. Required for all first year students. Not for credit in addition to ACH 101, GLS 101, HDV 101, IIS 101, SBU 101, LHD 101, and LSE 101.

1 credit, S/U grading

**LDS 102 Undergraduate College Seminar: Leadership and Service**

A seminar for all first-year students in the Undergraduate College of Leadership and Service. Seminar topics vary annually by section and cover a variety of subjects under the general scope of Leadership and Service. Required for all first year students. Not for credit in addition to ACH 102, GLS 102, HDV 102, IIS 102, or SBU 102.

Prerequisite: Admission to the LDS Undergraduate College

1 credit, ABC/U grading

**MAR**

Marine Sciences

**MAR 291 Topics in Marine Sciences**

Directed readings in marine sciences to enhance the transition of students from the Southampton College Marine Sciences program to Stony Brook. Topic for this semester will be Utilization of Limited Resources, including over-fishing, nutrient limitation/addition, foraging strategies, and related topics.

Prerequisite: Permission of instructor

1-2 credits, S/U grading

**MAR 303 Long Island Marine Habitats**

An introduction to hydrodynamics, contemporary ideas on ocean circulation and the application of acoustics and optics to ocean technologies. Not for credit in addition to MAR 353.

3 credits

**MAR 350 Introduction to Ocean Physics**

An introduction to the physical properties, motion of, and forces that drive the movement of fluids (air and water) on the earth. Physical oceanographic processes that range in scale from several mm to 1000s of km will be studied. This course will introduce the student to the physics of the marine environment and the tools (physical, mathematical, scientific) to study these waters. Environments ranging from pelagic to estuarine will be examined. Not for credit in addition to MAR 350.

Prerequisites: MAT 126, 132, or 142; PHY 119, 121, 125, 131 or 141

2 credits

**MAR 352 Introduction to Physical Oceanography**

An introduction to the measurements, equipment, and data processing techniques used to study the motion of fluids (air and water) on the earth. Students will learn to use scientific instruments, design sampling strategies, and utilize previously collected data sets to study both local and global processes. At-sea collection and analysis of data will be emphasized.

Pre- or co-requisites: MAR 350 or 352

1 credit

**MAR 375 Marine Mammal and Sea Turtle Rehabilitation**

An intensive hands-on course designed to introduce students to the topics of marine mammal and sea turtle biology as they relate to rehabilitation and research. Students will be exposed to marine mammal and sea turtle ecology, conservation issues, management, and research in the context of wildlife rehabilitation. Through active participation in the rehabilitation activities at the New York State's only marine mammal rescue facility, instructive lectures, writing, reading assignments, quizzes, tests, and research, students will be offered the opportunity to be thoroughly immersed in the field of marine mammal and sea turtle rehabilitation.

Prerequisite: BIO 201 or permission of instructor

3 credits

**MAT**

Mathematics

**MAT 373 Analysis of Algorithms**

Mathematical analysis of a variety of computer algorithms including searching, sorting, matrix multiplication, fast Fourier transform, and graph algorithms. Time and space complexity, Upper bound, lower bound, and average-case analysis. Introduction to NP completeness. Some machine computation is required for the implementation and comparison of algorithms. This course is offered as AMS 373 and MAT 373.

1 credit

**MEC**

Mechanical Engineering

**MEC 460 Introduction to Robotics: Theory and Applications**


Prerequisites: MEC 262; U4 standing

3 credits

**PHI**

Philosophy

**PHI 391-G Topics in Philosophy**

Semester supplements to this Bulletin contain specific descriptions when course is offered. Past topics have included Introduction to Indian Philosophy, and Bergson. Semester supplements to this Bulletin contain specific descriptions when course is offered. May be repeated for credit as the topic changes. Designed for upper-division students, this course provides an in-depth study of a specific topic within humanities disciplines such as music, art, literature, religion, and philosophy. Students will be expected to demonstrate
knowledge of the conventions and methods used in the humanities discipline(s) studied. May be repeated for credit as the topic changes.

POL

Political Science

POL 338-J Contemporary India: History, Politics, and Diplomacy (Post-1947)  
new course  
Study of the forces shaping India’s post-independence history, domestic politics, and foreign diplomacy. As the world’s largest democracy, second most populous nation, and Asia’s second fastest growing economy, its impact on the international scene in the coming years will be carefully analyzed. The course, taught by a former Ambassador, will also focus on emerging trends in Indo-U.S. relations and impact of the Indian diaspora. This course is offered as both AAS 338 and POL 339.  
Prerequisites: AAS 201 or POL 101; U3 or U4 standing  
3 credits

POL 339-J Contemporary China: History, Politics, and Diplomacy (Post-1949)  
new course  
This course will analyze the evolution of major events in contemporary China following the communist revolution that led to the establishment of the People’s Republic in 1949. The course, taught by a former Ambassador, will examine major political, economic, and social developments in light of both their general global impact and their particular relationship with the U.S. This course is offered as both AAS 339 and POL 339.  
Prerequisites: AAS 219 or POL 101; U3 or U4 standing  
3 credits

POL 392-I Topics in Political Science and the European Tradition revised description  
Semester supplements to this Bulletin contain specific descriptions when course is offered. Topics may include, for example, politics during the time of the French Revolution, or contemporary Italian politics. Designed for upper-division students, this course provides an in-depth study of a specific topic within humanities disciplines such as music, art, literature, religion, and philosophy. Students will be expected to demonstrate knowledge of the conventions and methods used in the humanities discipline(s) studied. May be repeated for credit as the topic changes.

PSY

Psychology

PSY 327 Human Growth and Development in the Educational Context Effective Spring 2006, SSE 327 will be offered as PSY 327.  
The biological and psychological development of childhood and adolescence that affects teaching and curriculum development for diverse learners. Additional topics include childhood and adolescent psychiatric disorders, special education programs, drug and alcohol use and abuse, and societal issues. Formerly SSE 327 and SSL 327. Not for credit in addition to SSE 327 or SSI 327.  
Prerequisites: U3 or U4 standing; admission to a teacher education program, or admission in the Psychology major  
1 credit, S/U grading

RUS

Russian

RUS 475 Undergraduate Teaching Practicum in Russian I  
new course  
Each student conducts a regular problem or tutorial section that supplements a regular language course under the guidance of a master teacher. Responsibilities may include preparing material for discussion and helping students with problems. Not for major or minor credit.  
Prerequisites: Fluency in Russian; permission of instructor and department  
3 credits, S/U grading

RUS 476 Undergraduate Teaching Practicum in Russian II  
new course  
Work with a faculty member as an assistant in one of the faculty member’s regularly scheduled classes. Students assume greater responsibility in such areas as leading discussions and analyzing results of tests that have already been graded. Students may not assist in the same course twice.  
Prerequisites: Fluency in Russian; permission of instructor and department  
3 credits, S/U grading

SBU

Stony Brook University

SBU 101 Introduction to Stony Brook revised description  
A seminar intended to integrate transfer students into the Undergraduate College of Science and Society and into the University community by providing information about Stony Brook and a forum for discussion of values, intellectual and social development, and personal as well as institutional expectations. Required for all first year students. Not for credit in addition to ACH 101, LDS 101, GLS 101, HDV 101, ITS 101, SBU 101, LHD 101, and LSE 101.  
1 credit, S/U grading

SOC

Sociology

SOC 390-F, 391-F, 392-F, 393-F, 394-F Special Topics revised description  
Semester supplements to this Bulletin contain specific descriptions when course is offered. Past topics have included titles such as Global Trade, Arms, and Human Rights; The Sociology of Aging; and Gender in Africa. Designed for upper-division students, this course provides an in-depth study of a specific topic within social sciences disciplines such as history, economics, political science, and linguistics. Students will be expected to demonstrate an understanding of the methods social scientists use to explore social phenomena, and knowledge of the major concepts, models, and issues of the social science discipline(s) studied. May be repeated for credit as the topic changes.

SSE

Social Studies Secondary Education

SSE 327 Human Growth and Development in the Educational Context Effective Spring 2006, SSE 327 will be offered as PSY 327.  

SSO

Science and Society

SSO 101 Introduction to Stony Brook revised description  
A seminar intended to integrate transfer students into the Undergraduate College of Science and Society. The seminar covers various topics under the general scope of science and related topics such as medicine, disease, and human impacts on the environment. Topics vary by section and may include: the traditional scientific disciplines (e.g., biology and anatomy), multidisciplinary scientific subjects (e.g., environmental science, global change), environmental conservation, and human biology, ecology, evolution, and medicine. Required for all first year students. Not for credit in addition to ACH 102, GLS 102, HDV 102, ITS 102, and LSE 102.  
1 credit, ABC/UI grading

SSO 102 Undergraduate College Seminar: Science and Society revised description  
A seminar for all first year students in the Science and Society Undergraduate College. The seminar covers various topics under the general scope of science and related topics such as medicine, disease, and human impacts on the environment. Topics vary by section and may include: the traditional scientific disciplines (e.g., chemistry and physics), multidisciplinary scientific subjects (e.g., environmental science, global change), environmental conservation, and human biology, ecology, evolution, and medicine. Required for all first year students. Not for credit in addition to ACH 102, GLS 102, HDV 102, ITS 102, or LSE 102.  
1 credit, ABC/UI grading
SUPPLEMENT: COURSES

Women's Studies

WST 390-G, 391-G Special Topics in Women's Studies in the Humanities revised description, prerequisites
Designed for upper-division students, this course provides an in-depth study of specific current topics in women's studies within humanities disciplines such as literature, art, music, religion, and philosophy. Past topics include World Women Writers, Music and Sexuality, Contemporary Memoirs, and Alice Walker. Semester supplements to this Bulletin contain specific descriptions when course is offered. May be repeated for credit as the topic changes. Designed for upper-division students, this course provides an in-depth study of specific current topics in women's studies within humanities disciplines such as literature, art, music, religion, and philosophy. Past topics include World Women Writers, Music and Sexuality, Contemporary Memoirs, and Alice Walker. Semester supplements to this Bulletin contain specific descriptions when course is offered. May be repeated for credit as the topic changes.

WST 305-G Feminist Theories in Context revised prerequisites, new DEC Prerequisite: WST major or minor, or WST 102 (formerly SSI/WST 102), or WST 103, or WST/PHI 284, or 6 credits of departmentally approved courses
Advisory prerequisites: may be announced with topic

WST 397-F Social Sciences Topics in Women's Studies revised description, prerequisites Designed for upper-division students, this course provides an in-depth study of specific current topics in women's studies within humanities disciplines such as literature, art, music, religion, and philosophy. Past topics include World Women Writers, Music and Sexuality, Contemporary Memoirs, and Alice Walker. Semester supplements to this Bulletin contain specific descriptions when course is offered. May be repeated for credit as the topic changes.

WST 399-K Special Topics in the History of American Women revised prerequisites
Prerequisite: WST major or minor, or WST 102 (formerly SSI/WST 102), or WST 103, or WST/PHI 284, or 6 credits of departmentally approved courses
Advisory prerequisites: may be announced with topic

WST 399-G Topics in Gender and Sexuality revised description, prerequisites
Semester supplements to this Bulletin contain specific descriptions when course is offered. Past topics include 20th-Century Latin American Literature, Race and Gender in Opera; and Gender, Ethnicity, and Capitalism. Semester supplements to this Bulletin contain specific descriptions when course is offered. May be repeated for credit as the topic changes. Designed for upper-division students, this course provides an in-depth study of a specific topic within humanities disciplines such as literature, art, music, religion, and philosophy. Students will be expected to demonstrate knowledge of the conventions and methods used in the humanities discipline(s) studied. May be repeated for credit as the topic changes.

WST 399-J Topics in Global Feminism revised description, prerequisites
Designed for upper-division students, this course provides an in-depth study of a specific topic relating to non-western world civilizations. With a focus on the development of feminism beyond the United States and Europe, topics may include such titles as Global Feminism and Latinas: History, Society, and Culture. Semester supplements to this Bulletin contain specific descriptions when course is offered. May be repeated for credit as the topic changes.

WST 399-D Dance Appreciation revised prerequisites, DEC Prerequisite: WST major or minor, or WST 102 (formerly SSI/WST 102), or WST 103, or WST/PHI 284, or 6 credits of departmentally approved courses
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