CSE 376 Advanced Systems Programming in UNIX/X
Focuses on several aspects of producing commercial-grade system software: reliability, portability, security, and survivability. Uses Unix and C, heavily used in industry when developing systems and embedded systems code. Emphasizes techniques and tools to produce reliable, secure, and highly portable code. Requires substantial programming as well as a course project.
Prerequisite: CSE 214 or 230
3 credits

CSE 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, ultrasound 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, segmentation, 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

CSE 380 Computer Game Programming
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

CSE 390, 391, 392, 393, 394 Special Topics in Computer Science
A lecture or seminar course on a current topic in computer science. Semester supplements to this Bulletin contain specific description when course is offered. May be repeated for credit as the topic changes, but cannot be used more than twice to satisfy CSE major requirements.
Prerequisites: CSE or ISE major; U3 or U4 standing
3 credits

CSE 408 Network Security
Principles and practices of computer network security. Cryptography, authentication protocols, digital signatures, IP/E-commerce security, VPNs, firewalls, and network intrusion detection.
Prerequisite: CSE/ISE 310 or CSE/ESE 346
3 credits

CSE 409 Computer System Security
Principles and practices of computer system security. Operating system security, authentication and access control, capabilities, information flow, program security, database security, cryptographic key management, auditing, assurance, vulnerability analysis and intrusion detection.
Prerequisite: CSE 306 or 376, or ESE 333
3 credits

CSE 475 Undergraduate Teaching Practicum
Students assist faculty in teaching by conducting a recitation or laboratory section that supplements a lecture course. The student receives regularly scheduled supervision from the faculty instructor. May be used as an open elective only and repeated once.
Prerequisites: U4 standing as an undergraduate major within the college; a minimum g.p.a. of 3.00 in all Stony Brook courses and the grade of B or better in the course in which the student is to assist; or permission of department
3 credits

CSE 487 Research in Computer Science
An independent research project with faculty supervision. Only three credits of research electives (AMS 487, CSE 487, BME 499, ESE 499, ESM 499, ESE 487, and MEC 499) may be counted toward technical elective requirements. May not be taken for more than six credits.
Prerequisites: Permission of instructor and department
0-6 credits

CSE 488 Internship in Computer Science
Participation in local, state, national, or international private enterprise, public agencies, or nonprofit institutions. Students are required to submit a written proposal, progress reports, and a final report on their experience to the client and to the department. May be repeated up to a limit of 12 credits but CSE and ISE 488 cannot be used as electives to satisfy CSE major requirements.
Prerequisites: CSE major, U3 or U4 standing; permission of department
3 credits, S/U grading

CSE 495, 496 Senior Honors Research Project I, II
A two-semester research project carried out under the supervision of a computer science faculty member. Students who enroll in CSE 495 must complete CSE 496 in the subsequent semester and receive only one grade upon completion of the sequence.
Prerequisite: Admission to the Computer Science Honors Program
3 credits

DAN Dance

DAN 102-D Intro 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, 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

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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 asTHR 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 experimentation 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. Semester Supplements to this Bulletin contain descriptive information 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 presentation 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 techniques. 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 in order 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 465 or 467 (or the former THR 465 or 467) 3 credits

DAN 475 Undergraduate Teaching Practicum I
Work with a faculty member as an assistant in one of the faculty member’s regularly scheduled classes. Students assume greater responsibilities such as leading discussions and analyzing results of tests that have already been graded. The course in which the student is permitted to work as a teaching assistant must be different from the course in which he/she previously served. Not for major credit. Not for credit in addition to THR 475.
Prerequisites: Dance minor; U3 or U4 standing; permission of instructor and department 3 credits, SU/grading

DAN 476 Undergraduate Teaching Practicum II
Work with a faculty member as an assistant in one of the faculty member’s regularly scheduled classes. Students assume greater responsibilities such as leading discussions and analyzing results of tests that have already been graded. The course in which the student is permitted to work as a teaching assistant must be different from the course in which he/she previously served. Not for major credit. Not for credit in addition to THR 476.
Prerequisites: DAN 475; permission of instructor and department 3 credits, SU/grading

DAN 487 Independent Research
Designing and developing 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
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 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. Not for credit in addition to THR 488.
Prerequisite: Permission of department 0-6 credits, SU/grading

ECO Economics

ECO 100-F Economics for Social Studies Teachers
An introduction to the principles of micro- and macroeconomics for students planning to become social studies teachers. The course will focus on economic concepts and reasoning with the goal of teaching prospective teachers how to apply these ideas to important public policy issues. Not for economics major credit.
Prerequisite: Admission to the teacher preparation program in social studies 3 credits

ECO 108-F Introduction to Economics
An introduction to economic analysis. Microeconomics (the study of individual, firm, industry, and market behavior) and macroeconomics (the study of the determination of national income, employment, and inflation).
Prerequisite: C or higher in MAT 122 or MAT 123 or AMS 151 or level 4 on the mathematics placement examination 3 credits

ECO 301-H Sustainability of the Long Island Pine Barrens
The ecologically diverse Long Island Pine Barrens region provides a habitat for a large number of rare and endangered species, but faces challenges associated with protection of a natural ecosystem that lies in close proximity to an economically vibrant urban area that exerts intense development pressure. In this course we will consider the interaction of the ecological, developmental and economic factors that impact the Pine Barrens and the effectiveness of decision support systems in promoting sustainability of the Pine Barrens. This course is offered as BIO 301, GEO 301, ECO 301, and ESG 301.
Prerequisites: BIO 201 or ECO 108 or GEO 101 or 102 or ESG 100 or ESG 198 or CHE 151, and upper division status 3 credits

ECO 303-F Intermediate Microeconomic Theory
Analytical study of the behavior of fundamental economic units (consumer and the firm) and its implications for the production and distribution of goods and services. Emphasis on the use of economic theory to provide explanations of observed phenomena, including the analytical derivation of empirically verifiable propositions.
Prerequisites: C or higher in ECO 108; C or higher in MAT 122 or MAT 123 or AMS 151 or placement level 4 on the mathematics placement examination 3 credits

ECO 305-F Intermediate Macroeconomic Theory
The theory of national income determination, employment, distribution, price levels, inflation, and growth. 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. Not for credit in addition to THR 488.
Prerequisite: Permission of department 0-6 credits, SU/grading

ECO 310 Basic Computational Methods in Economics
A first course in the computational and graphical techniques for finding numerical solutions to the economic models presented in undergraduate courses. Includes the foundations of programming (using BASIC), data management, Newton’s method for solving nonlinear equations, exploring and fitting functions graphically, and finding maxima of functions.
Prerequisite: C or higher in ECO 303 3 credits

ECO 316-K U.S. Class Stucture and Its Implications
Investigation of the economic foundations of social class in the U.S. and connections among class, race, and gender. Consideration of both theoretical and empirical strategies to understand the working class, the middle class, and the capitalist class in contemporary U.S. society, including the implications of class analysis for social issues such as government economic policy formation, the “underclass” and welfare reform, globalization, living standards, the distributions of income and wealth, and economic ethics.
Prerequisite: C or higher in ECO 108 3 credits

ECO 317 Marxist Political Economy
An analysis of capitalism as a social system of production and exchange, based on the economic writings of Karl Marx and others working in that broad tradition. The course begins with study of Marx’s philosophical method, dialectical models of the, and applies this method to the historical development of capitalism and the operation of the modern capitalist economy. The course explores connections between economic power and political, cultural, and ethical issues.
Prerequisite: C or higher in ECO 108 3 credits

ECO 320 Mathematical Statistics
An introduction to statistical methods and their properties that are useful in analysis of economic data. Topics include elements of probability theory and its empirical application, univariate and multivariate distributions, sampling distributions, limiting distributions, and point and interval estimation. Regular problem and occasional projects are required. Not for credit in addition to AMS 310.
Prerequisites: C or higher in ECO 108; C or higher in MAT 122 or MAT 123 or AMS 151 or placement level 4 on the mathematics placement examination 3 credits

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