The Information Systems major, which is housed in the Department of Computer Science, prepares its graduates to design and build computerized data processing and decision support systems. The program is technically oriented, emphasizing the design and implementation aspects of large-scale information systems as well as the more traditional managerial and organizational issues, and it balances development of system engineering skills with learning to deliver reliable systems on time and within budget. Throughout the program, students are exposed to diverse application areas ranging from traditional business, finance, and accounting through telecommunications, networks, multimedia, and database management, to computer-aided design and industrial production management systems.

Faculty
Please see the faculty listing in the entry for the Computer Science major.

Courses Offered in Information Systems
See the Course Descriptions listing in this Bulletin for complete information.

ISE 300 Writing in Information Systems
ISE 305 Database Systems Design and Practice
ISE 308 Software Engineering
ISE 310 Data Communication and Networks
ISE 315 Database Transaction Processing Systems
ISE 332 Introduction to Scientific Visualization
ISE 333 User Interface Development
ISE 334 Introduction to Multimedia Systems
ISE 336 Internet Programming
ISE 364 Advanced Multimedia Techniques
ISE 390-391 Special Topics in Information Systems
ISE 475 Undergraduate Teaching Practicum
ISE 487 Research in Information Systems
ISE 488 Information Systems Internship

Acceptance into the Information Systems Major
Qualified freshman and transfer applicants may be accepted directly into the Information Systems major upon admission to the University. Currently enrolled students may apply for acceptance to the major after completing the following two courses with grades of C or higher and a grade point average of 2.80 or higher.

1. CSE 113 Foundations of Computer Science I
2. CSE 114 Computer Science I

Requirements for the Major in Information Systems (ISE)
The major in Information Systems leads to the Bachelor of Science degree. At least two of the courses under requirement A.2. below must be completed at Stony Brook.

Completion of the major requires approximately 70 credits.

A. Information Systems/Computer Science Courses
1. CSE 114 Computer Science I
   CSE 213 Foundations of Computer Science II
   CSE 214 Computer Science II
   CSE 215 Foundations of Computer Science
   CSE 219 Computer Science III
   CSE 220 Computer Organization and Systems Programming
2. ISE/CSE 305 Principles of Database Systems

B. Mathematics Courses
1. AMS 151 Applied Calculus I
   (or MAT 131 or MAT 141 or MAT 125, 126)
2. AMS 201 Matrix Methods and Models
   (or AMS 210 Applied Linear Algebra
   or MAT 211 Introduction to Linear Algebra
3. AMS 310 Survey of Probability and Statistics
   (or ECO 320 Mathematical Statistics

C. Economics and Business Courses
1. ECO 108 Introduction to Economics
2. BUS 210 Financial Accounting
3. One course chosen from the following:
   BUS 214 Managerial Accounting
   BUS 346 Operations Management
   BUS 349 Management Science
   BUS 355 Investment Analysis
   BUS 356 Financial Engineering
   ECO 348 Analysis for Managerial Decision Making
   ECO 368 Modern Portfolio Theory
   ECO 389 Corporate Finance
   EST 392 Engineering and Managerial Economics
   EST 393 Production and Operations Analysis
4. One course chosen from the following:
   BUS 347 Business Ethics
   BUS 348 Principles of Marketing
   ECO 326 Industrial Organization
   ECO 343 Transformation in Economic Systems
   ECO 345 Law and Economic Issues
POL 319 Business Law
POL 359 Public Policy Analysis
POL 364 Organizational Decision Making
SOC 381 Sociology of Organizations
5. One course chosen from the following:
BUS 340 Information Systems in Management
BUS 343 Expert Systems in Business
EST 302 Assessment of Computer-Based Technologies
EST 305 Applications Software in Information Management
EST 320 Communication Technology Systems
EST 325 Technology in the Workplace

D. Upper-Division Writing Requirement:
ISE 300 Writing in Information Systems
All degree candidates must demonstrate writing skills in English at a level acceptable for Information Systems majors. To satisfy the requirement, the ISE student must submit a technical paper on an appropriate information systems topic that illustrates the student’s ability to write in a clear, concise, technical, and organized manner.

Grading
All courses taken to satisfy Requirements A through D must be taken for a letter grade and completed with a grade of C or higher. A grade of C or higher is required in prerequisite courses listed for all CSE and ISE courses.

Requirements for the Minor in Information Systems (ISE)
The minor in Information Systems is open to all students not majoring in either Computer Science or Information Systems or minoring in Computer Science. To declare the minor in Information Systems, students must complete CSE 110 with a grade of C or higher. The minor requires seven courses totaling 21 to 22 credits as outlined below.

1. CSE 110 Introduction to Computer Science
2. CSE 114, 214 Computer Science I, II
   or CSE 130, 230 Programming in C and C++
3. ISE 305 Database Systems
4. Three electives totaling at least nine credits. Electives must include at least six upper-division credits and at least six credits of CSE or ISE courses. Approved electives include most CSE and ISE courses, as well as other courses relevant to Information Systems; for details contact the Computer Science Undergraduate Office.

Note: All courses above must be passed with a grade of C or higher.