BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION: CONCENTRATION IN INFORMATION SYSTEMS

Concentration in Information Systems

The Information Systems concentration prepares students for multiple careers that require an aptitude for analytical thinking and a strong working competency in information systems. It is designed to produce a person with technical and managerial skills in business application development, project management, application analysis and design, data management, and network and security management. Graduates qualify for and are productive in careers that include technology/business analyst, programmer/analyst, database designer/analyst/administrator, network administrator, and help desk/technical support specialist. The concentration emphasizes technical knowledge of information system components and infrastructure; application and development skills; high-level competencies in applying information systems analysis and systems design strategies and techniques; understanding the information needs and delivery systems within business organizations; understanding the business/organizational context of information systems; communications and human relations skills for working with and managing people and projects in virtual teams; and education and desire for lifelong learning and professional and personal development.

All concentration courses must be taken on a letter grade basis with the exception of courses offered only on a CR/NC basis. A student must have a minimum grade point average of 2.0 in all concentration courses to graduate.

A maximum of two courses (6 units) in the information systems concentration may be courses not listed in the bulletin for the concentration including courses from other disciplines at SF State and courses from other AACSB accredited schools of business or institutions of equal caliber. All such courses must be approved in advance by an Information Systems advisor.

Bachelor of Science in Business Administration: Concentration in Information Systems – 60 units

Prerequisites to Core Courses

In addition to the core course program required of all business majors,

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS 110</td>
<td>Calculus with Business Applications (or equivalent to MATH 110)</td>
<td>3</td>
</tr>
<tr>
<td>or MATH 110</td>
<td>Business Calculus</td>
<td></td>
</tr>
<tr>
<td>ECON 101</td>
<td>Introduction to Microeconomic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ISYS 263</td>
<td>Introduction to Information Systems (or a passing score on the ISYS 263 CLEP Exam)</td>
<td>3</td>
</tr>
</tbody>
</table>

These courses must be completed before enrollment in certain core courses. Most core courses have specific prerequisites that are listed within the course descriptions.

Note: DS 110, ECON 101, and ECON 102 (formerly ECON 100) are acceptable for General Education.

Except in cases of credit by examination, no more than 6 units of the core may be offered toward graduation on a CR/NC basis.

Students must earn a grade of C- or higher in core business courses being used as prerequisites for other core business courses. Students who received grades of D-, D, or D+ before spring 2005 will be given an exception to this rule for any such courses.

Core Courses for Business Majors (39 units)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 100</td>
<td>Introduction to Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 101</td>
<td>Introduction to Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUS 300GW</td>
<td>Business Communication for Professionals - GWAR</td>
<td>3</td>
</tr>
<tr>
<td>or DS 660GW</td>
<td>Communications for Business Analytics - GWAR</td>
<td></td>
</tr>
<tr>
<td>BUS 682</td>
<td>Seminar on Business and Society</td>
<td>3</td>
</tr>
<tr>
<td>BUS 690</td>
<td>Seminar in Business Policy and Strategic Management</td>
<td>3</td>
</tr>
<tr>
<td>DS 212</td>
<td>Business Statistics I</td>
<td>3</td>
</tr>
<tr>
<td>or MATH 124</td>
<td>Elementary Statistics</td>
<td></td>
</tr>
<tr>
<td>or ISED 160</td>
<td>Data Analysis in Education</td>
<td></td>
</tr>
<tr>
<td>DS 412</td>
<td>Operations Management</td>
<td>3</td>
</tr>
<tr>
<td>ECON 102</td>
<td>Introduction to Macroeconomic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>FIN 350</td>
<td>Business Finance</td>
<td>3</td>
</tr>
<tr>
<td>IBUS 330</td>
<td>International Business and Multicultural Relations</td>
<td>3</td>
</tr>
<tr>
<td>ISYS 363</td>
<td>Information Systems for Management</td>
<td>3</td>
</tr>
<tr>
<td>or ACCT 307</td>
<td>Accounting Information Systems</td>
<td></td>
</tr>
<tr>
<td>MGMT 405</td>
<td>Introduction to Management and Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 431</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

1 Course must be taken for a letter grade.

Required Courses (15 units)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISYS 350</td>
<td>Building Business Applications</td>
<td>3</td>
</tr>
<tr>
<td>ISYS 463</td>
<td>Information Systems Analysis and Design</td>
<td>3</td>
</tr>
<tr>
<td>ISYS 464</td>
<td>Managing Enterprise Data</td>
<td>3</td>
</tr>
<tr>
<td>ISYS 565</td>
<td>Managing Enterprise Networks</td>
<td>3</td>
</tr>
<tr>
<td>ISYS 663</td>
<td>Information Technology Project Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives (6 units)

Select two of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISYS 471</td>
<td>E-Commerce Systems</td>
<td>3</td>
</tr>
<tr>
<td>ISYS 475</td>
<td>Building Web Applications with Open Source Software</td>
<td>3</td>
</tr>
<tr>
<td>ISYS 512</td>
<td>Business Application Design and Development with .NET</td>
<td>3</td>
</tr>
<tr>
<td>ISYS 556</td>
<td>Building Mobile Business Applications</td>
<td>3</td>
</tr>
<tr>
<td>ISYS 557</td>
<td>Managing Open Source</td>
<td>3</td>
</tr>
<tr>
<td>ISYS 567</td>
<td>Information Systems Internship</td>
<td>3</td>
</tr>
<tr>
<td>ISYS 568</td>
<td>Multimedia Business Applications Development</td>
<td>3</td>
</tr>
</tbody>
</table>
ISYS 569  Information Systems for Business Process Management  3
ISYS 575  Information Security Management  3
ISYS 650  Business Intelligence  3

General Education Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Course Level</th>
<th>Units</th>
<th>Area Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral Communication</td>
<td>LD</td>
<td>3</td>
<td>A1</td>
</tr>
<tr>
<td>Written English Communication I</td>
<td>LD</td>
<td>3</td>
<td>A2</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>LD</td>
<td>3</td>
<td>A3</td>
</tr>
<tr>
<td>Written English Communication II</td>
<td>LD</td>
<td>3</td>
<td>A4</td>
</tr>
<tr>
<td>Physical Science</td>
<td>LD</td>
<td>3</td>
<td>B1</td>
</tr>
<tr>
<td>Life Science</td>
<td>LD</td>
<td>3</td>
<td>B2</td>
</tr>
<tr>
<td>Lab Science</td>
<td>LD</td>
<td>1</td>
<td>B3</td>
</tr>
<tr>
<td>Mathematics/Quantitative Reasoning</td>
<td>LD</td>
<td>3</td>
<td>B4</td>
</tr>
<tr>
<td>Arts</td>
<td>LD</td>
<td>3</td>
<td>C1</td>
</tr>
<tr>
<td>Arts or Humanities</td>
<td>LD</td>
<td>3</td>
<td>C1 or C2</td>
</tr>
<tr>
<td>Humanities: Literature</td>
<td>LD</td>
<td>3</td>
<td>C3</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>LD</td>
<td>3</td>
<td>D1</td>
</tr>
<tr>
<td>Social Sciences: US History</td>
<td>LD</td>
<td>3</td>
<td>D2</td>
</tr>
<tr>
<td>Social Sciences: US &amp; CA Government</td>
<td>LD</td>
<td>3</td>
<td>D3</td>
</tr>
<tr>
<td>Lifelong Learning and Self-Development (LLD)</td>
<td>LD or UD</td>
<td>3</td>
<td>E</td>
</tr>
<tr>
<td>Physical and/or Life Science</td>
<td>UD</td>
<td>3</td>
<td>UD-B</td>
</tr>
<tr>
<td>Arts and/or Humanities</td>
<td>UD</td>
<td>3</td>
<td>UD-C</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>UD</td>
<td>3</td>
<td>UD-D</td>
</tr>
</tbody>
</table>

SF State Studies

Courses certified as meeting the SF State Studies requirements may be upper or lower division in General Education (GE), in a major or minor, or an elective.

American Ethnic and Racial Minorities (AERM)  LD or UD  3
Environmental Sustainability (ES)  LD or UD  3
Global Perspectives (GP)  LD or UD  3
Social Justice (SJ)  LD or UD  3

Note: LD = Lower Division; UD = Upper Division.

First-Time Student Roadmap (4 Year)

This roadmap opens in a new tab. (bulletin.sfsu.edu/colleges/business/information-systems/bs-business-administration-concentration-information-systems/roadmap.html)

General Advising Information for Transfer Students

1. Before transfer, complete as many lower division requirements or electives for this major as possible.
2. The following courses are not required for admission, but are required for graduation. Students are strongly encouraged to complete these units before transfer; doing so will provide more flexibility in course selection after transfer.
   • a course in U.S. History
   • a course in U.S. & California Government
   • a 2nd-semester course in written English composition

For information about satisfying the requirements described in (1) and (2) above at a California Community College (CCC), please visit http://www.assist.org. Check any geographically accessible CCCs; sometimes options include more than one college. Use ASSIST to determine:

- Which courses at a CCC satisfy any lower division major requirements for this major, including 2nd-semester composition;

Remedial courses are not transferable and do not apply to the minimum 60 units/90 quarters required for admission.

Additional units for courses that are repeated do not apply to the minimum 60 units required for upper division transfer (for example, if course was not passed on the first attempt, or was taken to earn a better grade).

Before leaving the last California community college of attendance, obtain a summary of completion of lower division General Education units (IGETC or CSU GE Breadth). This is often referred to as a GE certification worksheet. SF State does not require delivery of this certification to Admissions, but students should retain this document for verifying degree progress after transfer.

Credit for Advanced Placement, International Baccalaureate, or College-Level Examination Program courses: AP/IB/CLEP credit is not automatically transferred from the previous institution. Units are transferred only when an official score report is delivered to SF State. Credit is based on the academic year during which exams were taken. Refer to the University Bulletin in effect during the year of AP/IB/CLEP examination(s) for details regarding the award of credit for AP/IB/CLEP.

Students pursuing majors in science, technology, engineering and mathematics (STEM) disciplines often defer 6-9 units of lower division general education in areas C and D until after transfer in order to focus on preparation courses for the major. (This advice does not apply to students pursuing associate degree completion before transfer.)
Transferring from institutions other than CCCs or CSUs

Review SF State’s lower division General Education requirements. Note that, as described below, the four basic skills courses required for admission meet A1, A2, A3, and B4 in the SF State GE pattern. Courses that fulfill the remaining areas of SF State’s lower division GE pattern are available at most two-year and four-year colleges and universities.

Of the four required basic skills courses, a course in critical thinking (GE A3) may not be widely offered outside the CCC and CSU systems. Students should attempt to identify and take an appropriate course no later than the term of application to the CSU. To review more information about the A3 requirement, please visit http://bulletin.sfsu.edu/undergraduate-education/general-education/lower-division/#AAEL.

Identify and complete a 2nd-semester written English composition course before transfer. This is usually the next course after the typical “freshman comp” course, with a focus on writing, reading and critical analytical skills for academic purposes, and developing skills in composing, revising, and the use of rhetorical strategies.

Waiting until after transfer to take a single course at SF State that meets both US and CA/local government requirements may be an appropriate option, particularly if transferring from outside of California.

All students must meet the transfer eligibility requirements outlined below for admission.

For more information, visit the Undergraduate Admissions section.

• Complete 60 or more transferable semester units or 90 or more quarter units
• Earn a college grade point average of 2.00 or better in all transferable courses. Non-local area residents may be held to a higher GPA standard.
• Be in good standing at the last college or university attended
• Complete 30 semester units (45 quarter units) of general education, including four basic skills courses:
  a. One course in oral communication (same as CSU GE area A1)
  b. One course in written composition (same as CSU GE area A2)
  c. One course in critical thinking (same as CSU GE area A3)
  d. One course in mathematics or quantitative reasoning, with intermediate algebra as a prerequisite (same as CSU GE area B4)
• The four basic skills courses and a minimum of 60 transferable semester units (90 quarter units) must be completed by the spring semester prior to fall admission, or by the fall semester prior to spring admission. Earn a “C” or better grade in each basic skills course.