BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION: CONCENTRATION IN DECISION SCIENCES

Concentration in Decision Sciences
The Decision Sciences concentration provides students with the skills necessary to analyze and solve practical business problems. Concentration courses allow students to acquire competence in decision making through the use of professional business software, such as spreadsheet, forecasting, and simulation packages. By selecting appropriate electives, students can prepare for a career using decision sciences in computer information systems, finance, operations, marketing, design and industry, accounting, international business, general management, or other areas within industry or government.

All concentration courses must be taken on a letter-grade basis. A student must have a minimum grade point average of 2.0 across all concentration courses.

Bachelor of Science in Business Administration: Concentration in Decision Sciences — 60 units

Prerequisites to Core Courses
In addition to the core course program required of all business majors, the following courses must be completed before enrollment in certain core courses.

<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.

Required Courses (12 units)
Select 12 credit hours from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS 312</td>
<td>Data Analysis with Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>DS 408</td>
<td>Computer Simulation</td>
<td>3</td>
</tr>
<tr>
<td>DS 601</td>
<td>Applied Management Science</td>
<td>3</td>
</tr>
<tr>
<td>DS 604</td>
<td>Applied Business Forecasting</td>
<td>3</td>
</tr>
<tr>
<td>DS 612</td>
<td>Data Mining with Business Applications</td>
<td>3</td>
</tr>
<tr>
<td>DS 624</td>
<td>Quality Management</td>
<td>3</td>
</tr>
<tr>
<td>DS 655</td>
<td>Sustainable Supply Chain Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Approval Electives (9 units)

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Note: Decision sciences students are advised to take DS 660GW Communications for Business Analytics - GWAR as one of the approved electives; it can substitute for BUS 300GW Business Communication for Professionals - GWAR for the Decision Sciences concentration as it satisfies the University GWAR requirement.

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</td>
<td>LD</td>
<td>3</td>
<td>A1</td>
</tr>
<tr>
<td>Written English</td>
<td>LD</td>
<td>3</td>
<td>A2</td>
</tr>
<tr>
<td>Communication I</td>
<td>LD</td>
<td>3</td>
<td>A3</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>LD</td>
<td>3</td>
<td>A4</td>
</tr>
<tr>
<td>Written English</td>
<td>LD</td>
<td>3</td>
<td>A4</td>
</tr>
<tr>
<td>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>
</tbody>
</table>
Humanities: Literature
LD 3 C3
Social Sciences
LD 3 D1
Social Sciences: US History
LD 3 D2
Social Sciences: US & CA Government
LD 3 D3
Lifelong Learning and Self-Development (LLD)
LD or UD 3 E
Physical and/or Life Science
UD 3 UD-B
Arts and/or Humanities
UD 3 UD-C
Social Sciences
UD 3 UD-D

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
This roadmap opens in a new tab. (bulletin.sfsu.edu/colleges/business/decision-sciences/bs-business-administration-concentration-decision-sciences/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.

Bachelor of Science in Business Administration: Concentration in Decision Sciences

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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.