

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.

Program Learning Outcomes

1. Students have basic competencies in business-related disciplines.
 - a. Students will demonstrate the discipline-based knowledge in accounting, economics, finance, information systems, international business, management, marketing, operations, and statistics.
 - b. Students will demonstrate the ability to integrate the knowledge of different functional areas into effective business solutions.
2. Students demonstrate effective communication skills.
 - a. Students will create well-written documents on a business topic;
 - b. Students will deliver an effective oral presentation on a business topic.
3. Students demonstrate the ability to analyze business situations.
 - a. Students will solve business problems using appropriate quantitative and analytical techniques and technologies;
 - b. Students will demonstrate the ability to identify and analyze alternatives in a business context;
 - c. Students will demonstrate the ability to articulate and defend a course of action.
4. Students develop team skills that facilitate the achievement of organizational goals.
 - a. Students will work effectively in culturally and ethnically diverse teams demonstrated by the ability to contribute to the team's performance, interact positively with teammates, keep the team on track, maintain high standards for team performance, and by having the necessary knowledge, skills, and abilities to help the team succeed.
5. Students understand the ethical issues related to the operation of business, including sustainability.
 - a. Students will identify key concepts in business ethics;
 - b. Students will recognize the ethical dilemmas in specific business cases;
 - c. Students will analyze how ethical issues can affect the interests of different stakeholders;
 - d. Students will propose a business solution to the ethical dilemmas;
 - e. Students will be aware of sustainability issues in business.
6. Students understand the issues related to the operation of global business
 - a. Students will recognize the relevant global issues including legal, political, social and cultural factors in specific management situations;
 - b. Students will analyze the impact of global issues such as legal, political, social and cultural factors in specific management situations;

Students will demonstrate the ability to propose business solutions based on the analysis of global issues, including legal, political, social, and cultural factors.

Bachelor of Science in Business Administration: Concentration in Decision Sciences - 69 units

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

Students must earn a grade of C- or higher in core Business courses required as prerequisites for other core Business courses.

Prerequisite Courses (9 units)

| Code | Title | Units |
|--|--|-------|
| DS 110 | Calculus with Business Applications | 3 |
| or MATH 110 | Business Calculus | |
| ECON 101 | Introduction to Microeconomic Analysis | 3 |
| ISYS 263 | Introduction to Information Systems | 3 |
| or a passing score on the ISYS 263 CLEP Exam | | |

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.

Core Courses (39 units)

| Code | Title | Units |
|------------------------------|---|-------|
| Required Core Courses | | |
| ACCT 100 | Introduction to Financial Accounting | 3 |
| ACCT 101 | Introduction to Managerial Accounting | 3 |
| BUS 300GW | Business Communication for Professionals - GWAR | 3 |

| | | |
|-------------|--|---|
| or DS 660GW | Communications for Business Analytics - GVAR | |
| BUS 682 | Seminar on Business and Society ¹ | 3 |
| BUS 690 | Seminar in Business Policy and Strategic Management ¹ | 3 |
| DS 212 | Business Statistics I | 3 |
| or MATH 124 | Elementary Statistics | |
| or ISED 160 | Data Analysis in Education | |
| DS 412 | Operations Management | 3 |
| ECON 102 | Introduction to Macroeconomic Analysis | 3 |
| FIN 350 | Business Finance | 3 |
| IBUS 330 | International Business and Multicultural Relations | 3 |
| ISYS 363 | Information Systems for Management | 3 |
| or ACCT 307 | Accounting Information Systems | |
| MGMT 405 | Introduction to Management and Organizational Behavior | 3 |
| MKTG 431 | Principles of Marketing | 3 |

¹ Course must be taken for a letter grade.

Concentration Courses (12 units)

| Code | Title | Units |
|--------------|--|-------|
| Select four: | | |
| DS 312 | Data Analysis with Computer Applications | 3 |
| DS 408 | Computer Simulation | 3 |
| DS 601 | Applied Management Science | 3 |
| DS 604 | Applied Business Forecasting | 3 |
| DS 612 | Data Mining with Business Applications | 3 |
| DS 624 | Quality Management | 3 |
| DS 655 | Sustainable Supply Chain Management | 3 |
| DS 660GW | Communications for Business Analytics - GVAR | 3 |

Note: DS 660GW Communications for Business Analytics - GVAR can satisfy both the core course requirement and one of the four required concentration courses.

Approved Electives (9 units)

Please see an undergraduate advisor to select electives. While additional classes from the above list can be used to fulfill this requirement, students may also use upper-level concentration classes from another department to do so, especially if they are quantitative in nature and are relevant to the degree.

General Education Requirements

| Requirement | Course Level | Units | Area Designation |
|------------------------------------|--------------|-------|------------------|
| Oral Communication | LD | 3 | A1 |
| Written English Communication I | LD | 3 | A2 |
| Critical Thinking | LD | 3 | A3 |
| Physical Science | LD | 3 | B1 |
| Life Science | LD | 3 | B2 |
| Lab Science | LD | 1 | B3 |
| Mathematics/Quantitative Reasoning | LD | 3 | B4 |
| Arts | LD | 3 | C1 |

| | | | |
|--|----|---|----------|
| Humanities | LD | 3 | C2 |
| Arts or Humanities | LD | 3 | C1 or C2 |
| 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 | 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), a major or minor, or an elective.

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

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

First-Time Student Roadmap (4 Year)

Find the correct roadmap (A, B, C, or D):

1. Select the row that matches your English Course choice for A2.*
2. Select the column that matches your QR Category (found at your student center under Math Alert).
3. Click the Roadmap that lines up with your row and column.

For example, if you are taking ENG 104 as your first English course and your student center math alert says you are QR Category III, you should choose Roadmap D.

| Pathway | QR Cat I/II | QR Cat III/IV |
|----------------|---|---|
| ENG 114 | Roadmap A (http://bulletin.sfsu.edu/colleges/business/decision-sciences/bs-business-administration-concentration-decision-sciences/roadmap-i-ii-eng/) | Roadmap C (http://bulletin.sfsu.edu/colleges/business/decision-sciences/bs-business-administration-concentration-decision-sciences/roadmap-iii-iv-eng/) |

| | | |
|------------------------|---|---|
| ENG 104/ENG 105 | Roadmap B (http://bulletin.sfsu.edu/colleges/business/decision-sciences/bs-business-administration-concentration-decision-sciences/roadmap-i-ii-stretch/) | Roadmap D (http://bulletin.sfsu.edu/colleges/business/decision-sciences/bs-business-administration-concentration-decision-sciences/roadmap-iii-iv-stretch/) |
|------------------------|---|---|

*Composition for Multilingual Students: If taking ENG 209 as your first English course, choose the ENG 114 row. If taking ENG 204 for your first English course, choose the ENG 104/ENG 105 row.

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

For information about satisfying the requirements described in (1) and (2) above at a California Community College (CCC), please visit <http://www.assist.org> (<http://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;
- Which courses at a CCC satisfy CSU GE, US History, and US & CA Government requirements.

Remedial courses are not transferable and do not apply to the minimum 60 semester units/90 quarter units 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 a 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 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 (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 bulletin.sfsu.edu/undergraduate-education/general-education/lower-division/#AAEL.

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 (<http://bulletin.sfsu.edu/undergraduate-admissions/>).

- Complete 60 or more transferable semester units or 90 or more quarter units.
- Earn a college grade point average of 2.0 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 (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.