

# 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.

## Program Learning Outcomes

- Business Knowledge and Integration**  
Demonstrate knowledge of core business disciplines and integrate concepts across functional areas to solve problems.
- Business Communication**  
Communicate business information effectively in written and oral formats for diverse audiences.
- Critical Thinking and Problem Solving**  
Apply critical thinking and problem-solving skills to analyze complex business situations and recommend reasoned solutions.
- Quantitative and Technological Proficiency**  
Use quantitative methods and appropriate technologies to analyze data and support business decisions.
- Teamwork and Inclusion**  
Collaborate effectively in diverse teams, demonstrating leadership and respectful communication in accomplishing team goals.
- Ethics, Sustainability and Global Perspective**  
Evaluate business decisions from ethical, sustainable, and global perspectives, considering diverse stakeholders and environments.

## Bachelor of Science in Business Administration: Concentration in Information Systems – 69 Units Minimum

- 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.

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

## Prerequisites Courses (9-12 units)

Code	Title	Units
Select One:		
DS 110	Calculus with Business Applications	
MATH 107 & MATH 108	Mathematics for Business Calculus I and Mathematics for Business Calculus II	
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 in the course descriptions.

**Note:** DS 110, ECON 101, and ECON 102 (formerly ECON 100) fulfill General Education requirements.

## Core Courses (39 units)

Code	Title	Units
ACCT 100	Introduction to Financial Accounting	3
ACCT 101	Introduction to Managerial Accounting	3
Select One:		
BUS 300GW	Business Communication for Professionals - GVAR	
DS 660GW	Communications for Business Analytics - GVAR	
BUS 682	Seminar on Business and Society <sup>1</sup>	3
BUS 690	Seminar in Business Policy and Strategic Management <sup>1</sup>	3
Select One:		
DS/ECON 212	Business Statistics	
MATH 124	Elementary Statistics	
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
MGMT 405	Introduction to Management and Organizational Behavior	3
MKTG 431	Principles of Marketing	3

<sup>1</sup> Course must be taken for a letter grade.

### Concentration Courses (15 units)

Code	Title	Units
ISYS 350	Building Business Applications	3
ISYS 463	Information Systems Analysis and Design	3
ISYS 464	Managing Enterprise Data	3
ISYS 565	Managing Enterprise Networks	3
ISYS 663	Information Technology Project Management	3

### Electives (6 units)

Select Two:

Code	Title	Units
ISYS 412	Application Development for Data Analytics	3
ISYS 475	Building Web Applications with Open Source Software	3
ISYS 556	Building Mobile Business Applications	3
ISYS 567	Information Systems Internship	3
ISYS 568	Multimedia Business Applications Development	3
ISYS 569	Information Systems for Business Process Management	3
ISYS 573	Generative Artificial Intelligence (Gen AI) and Large Language Models (LLMs) for Business	3
ISYS 574	Artificial Intelligence (AI)/Machine Learning (ML) for Business Applications	3
ISYS 575	Information Security Management	3
ISYS 650	Business Intelligence	3

### General Education Requirements

Requirement	Course Level	Units	Area Designation
English Composition	LD	3	1A
Critical Thinking	LD	3	1B
Oral Communication	LD	3	1C
Mathematical Concepts and Quantitative Reasoning	LD	3	2
Arts	LD	3	3A
Humanities	LD	3	3B
Social and Behavioral Sciences	LD	6	4
Physical Science	LD	3	5A
Biological Science	LD	3	5B
Laboratory	LD	1	5C
Ethnic Studies	LD or UD	3	6
Science or Math/Quantitative Reasoning	UD	3	5UD or 2UD
Arts or Humanities	UD	3	3UD
Social and Behavioral Sciences	UD	3	4UD

### 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 and Climate Action	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)

The roadmaps presented in this Bulletin are intended as suggested plans of study and do not replace meeting with an advisor. For a more personalized roadmap, please use the [Degree Planner \(https://registrar.sfsu.edu/degreeplanner/\)](https://registrar.sfsu.edu/degreeplanner/) tool found in your [Student Center](#).

Students should use their Pathway/Category (<https://gatorsmartstart.sfsu.edu/pathways/>) to determine which roadmap to follow. For directions on how to view your Pathway/Category, visit [howtofindyourpathways/](https://gatorsmartstart.sfsu.edu/howtofindyourpathways/). Questions? Contact Gator Smart Start. (<https://gatorsmartstart.sfsu.edu/>)  
[First-Time Student Roadmap – QR Pathway 1/2 \(https://bulletin.sfsu.edu/colleges/business/information-systems/bs-business-administration-concentration-information-systems/roadmap-i-ii-eng/\)](https://bulletin.sfsu.edu/colleges/business/information-systems/bs-business-administration-concentration-information-systems/roadmap-i-ii-eng/)

[First-Time Student Roadmap – QR Pathway 3/4 \(https://bulletin.sfsu.edu/colleges/business/information-systems/bs-business-administration-concentration-information-systems/roadmap-math-pathway/\)](https://bulletin.sfsu.edu/colleges/business/information-systems/bs-business-administration-concentration-information-systems/roadmap-math-pathway/)

### Transfer Student Roadmaps

For students with an AS-T in **Business Administration** with 18 units in the major satisfied.  
[BUS ADT Roadmap with 18 Lower-Division Units \(https://bulletin.sfsu.edu/colleges/business/information-systems/bs-business-administration-concentration-information-systems/adt18-roadmap/\)](https://bulletin.sfsu.edu/colleges/business/information-systems/bs-business-administration-concentration-information-systems/adt18-roadmap/)

For students with an AS-T in **Business Administration** with 15 units in the major satisfied.  
[BUS ADT Roadmap with 15 Lower-Division Unit \(https://bulletin.sfsu.edu/colleges/business/information-systems/bs-business-administration-concentration-information-systems/adt15-roadmap/\)](https://bulletin.sfsu.edu/colleges/business/information-systems/bs-business-administration-concentration-information-systems/adt15-roadmap/)

### SF State Scholars Roadmap

The San Francisco State Scholars program provides undergraduate students with an accelerated pathway to a graduate degree. Students in this program pursue a bachelor’s and master’s degree simultaneously. This program allows students to earn graduate credit while in their junior and/or senior year, reducing the number of semesters required for completion of a master’s degree.

[Business Administration \(Information Systems\) BS + Business Analytics MS SF State Scholars Roadmap \(https://bulletin.sfsu.edu/business-administration-information-systems-bs-business-analytics-ms-sf-state-scholars-roadmap/\)](https://bulletin.sfsu.edu/business-administration-information-systems-bs-business-analytics-ms-sf-state-scholars-roadmap/)

[colleges/business/information-systems/bs-business-administration-concentration-information-systems/scholars-roadmap-bs-information-systems-ms-business-analytics/](https://colleges/business/information-systems/bs-business-administration-concentration-information-systems/scholars-roadmap-bs-information-systems-ms-business-analytics/)

## 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 GE Areas 1A/A2, 1B/A3, 1C/A1, and 2/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 (1B/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 1B/A3 requirement, please visit [bulletin.sfsu.edu/undergraduate-education/general-education/lower-division/#AAEL](http://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.