

INFORMATION SYSTEMS, BS

Curriculum

The Bachelor of Science in Information Systems degree requires 45 units total, including the major, concentration, elective certificate, and elective and distribution courses.

Students take eight core courses in Information Systems and choose a major concentration in Programming, Data Science, or Artificial Intelligence. Information Systems students also select an elective certificate comprised of four courses from outside of the major.

Core and Major Concentrations

Course	Title
Core Courses	
CIS 110-DL	Introduction to Programming
CIS 130-DL	Tools and Technology of the Web
CIS 313-DL	Telecommunications and Computer Networks
ORG_BEH 368-DL	Project Management
CIS 317-DL	Database Systems Design and Implementation
CIS 345-DL	Information Security
CIS 370-DL	System Analysis and Design
CIS 395-DL	Information Systems Capstone
Major Concentrations (choose one)	
<i>Programming</i>	
CIS 212-DL	Introduction to Object-Oriented Programming
CIS 323-DL	Python for Data Science
CIS 324-DL	Applied Data Science
CIS 385-DL	Programming for the Web
<i>Data Science</i>	
CIS 323-DL	Python for Data Science
CIS 324-DL	Applied Data Science
CIS 325-DL	Enterprise Data Science
CIS 326-DL	Data Engineering
<i>Artificial Intelligence</i>	
CIS 323-DL	Python for Data Science
CIS 324-DL	Applied Data Science
CIS 360-DL	AI with Deep Learning
CIS 361-DL	Natural Language Processing AI

Elective Certificates

Elective certificates provide students with the opportunity to build skills in a wide range of areas to meet career objectives and earn a stand-alone credential to demonstrate expertise in the professional arena.

Elective Certificates - choose one

Biology for Health Sciences (available Fall 2025)

Business Essentials (<https://catalogs.northwestern.edu/sps/certificates/post-baccalaureate/business-essentials/business-essentials-certificate/>)

Corporate Communication and Branding (<https://catalogs.northwestern.edu/sps/certificates/post-baccalaureate/corporate-communication/corporate-communication-certificate/>)

Health, Science, and Society (<https://catalogs.northwestern.edu/sps/certificates/post-baccalaureate/health-science-society/health-science-society-certificate/>)

Human Resources (<https://catalogs.northwestern.edu/sps/certificates/post-baccalaureate/human-resources/human-resources-certificate/>)

Law and Policy (<https://catalogs.northwestern.edu/sps/certificates/post-baccalaureate/law-policy/law-policy-certificate/>)

Leadership (<https://catalogs.northwestern.edu/sps/certificates/post-baccalaureate/leadership/leadership-certificate/>)

Public Health (available Fall 2025)

Social Justice (<https://catalogs.northwestern.edu/sps/certificates/post-baccalaureate/social-justice/social-justice-certificate/>)

Strategic Communication (<https://catalogs.northwestern.edu/sps/certificates/post-baccalaureate/strategic-communication/strategic-communication-certificate/>)

Strategic Management (available Fall 2025)

Degree Requirements

In addition to the core courses, major concentration, elective certificate, and elective courses, the B.S. degree requires 14 units of distribution courses that includes a writing requirement and courses from three areas: humanities, science and math, and social sciences. Two distribution courses apply perspectives on power, justice, and equity: one course within the United States and one course focused globally. Students complete a philosophy course on professional ethics for one of the four humanities distribution courses.

Courses	Units Earned
Writing Requirement: English 111 and 205	2
Humanities	4
Scientific Inquiry and Quantitative Reasoning	4
Social Sciences	4
Major Requirements	8
Major Concentration	4
Elective Certificate	4
Electives	15
Total	45