

COMPUTER INFORMATION SYSTEMS, B.S.

The Bachelor of Science in Computer Information Systems (CIS) is designed to prepare career-minded professionals for advanced studies or employment in the challenging and ever-changing field of computer science and IT. Students earning a CIS degree develop the knowledge and skills required by the diverse technology-based organizations of today.

Curriculum Overview

This program requires 120 credits and allows students to specialize in one of three concentrations:

- Data Analytics
- Healthcare Information Systems
- Information Security & Assurance

Careers

Computer information systems can prepare students for advanced studies or employment in the ever-changing field of computer science and information technology.

According to the U.S. Bureau of Labor Statistics, the computer science and database industry is expected to grow by 12 percent through the year 2024, adding 488,500 new jobs. Job opportunities within this field have a broad range of salaries.

Data Analytics Concentration

Career as a market research analyst, data analyst or in business intelligence. Students learn how to collect, analyze, interpret and present information obtained from data drawn from multiple, often disparate sources of organizational data.

Healthcare Information Systems Concentration

Career as a medical or health services manager. Graduates leave with the knowledge of information technologies that meet the organizational needs of health care organizations.

Information Security & Assurance Concentration

Career as an information security analyst, web developer, computer network architect or information assurance engineer. Students gain the skills needed to secure information assets of an organization and ensure that data can be created, accessed and modified by only those with the requisite privileges. Upon completion students will be prepared for employment opportunities in a variety of businesses and organizations.

Admission Requirements

- Age: 22 years or older
- Work Experience: at least 3 years or the equivalent
- Education: high school diploma or composite GED score of at least 2250
- Interview: successful completion of an admission meeting with an admissions counselor. This can be done over the phone or on campus
- Grade Point Average: min transfer cumulative GPA of 2.5 (unless qualified for conditional admittance)

Admission Procedures

Step 1 – Complete Application

Complete the application for admission online at <https://www.slu.edu/> online. Applications are accepted and processed on a rolling basis. Students are encouraged to apply for admission at least one month before the term in which they wish to enroll.

Step 2 – Request official Transcripts

Have official transcripts mailed directly from all previously attended colleges to:

School for Professional Studies
Attention: Admissions
3840 Lindell Blvd
St. Louis, MO 63108

Applicants seeking a degree or certificate who have not earned a bachelor's degree must obtain official transcripts for all previous college course work. If students have never attended college or have less than 15 credits of transferable college credits they will need to provide official high school or GED transcripts.

Applicants seeking a certificate who have a bachelor's degree need only provide an official transcript from their primary higher education institution or evidence of a high school diploma or GED.

Non-degree applicants only need to provide unofficial copies as needed for prerequisites.

Step 3 – Meet with Admissions Counselor

Contact an admissions counselor to discuss the status of the application and educational and career goals. Students may schedule an appointment to speak with an admissions counselor at the St. Louis campus or over the phone in certain instances. Appointments are available during business hours and weekday evenings.

A writing and/or math assessment test may be necessary during or shortly after the admissions meeting.

Scholarships and Financial Aid

There are two principal ways to help finance a Saint Louis University education:

- **Scholarships:** awarded based on academic achievement, service, leadership and financial need. The School for Professional Studies offers numerous scholarships and awards specially for new students.
- **Financial Aid:** provided in the form of grants and loans, some of which require repayment.

To determine eligibility for financial assistance, submit the Free Application for Federal Student Aid (FAFSA) early for maximum consideration. FAFSA is available online at: <http://www.fafsa.ed.gov>

For information on other scholarships and financial aid, visit the student financial services office online at <http://finaid.slu.edu>.

Active Military and Veterans

Students may be eligible for a reduced tuition rate of \$410 per credit for this program. In addition, Saint Louis University participates in the Yellow Ribbon Program for eligible students.

Learning Outcomes

1. Graduates will be able to analyze a problem, and to identify and define the computing requirements appropriate to its solution. (ABET-1).
2. Graduates will be able to design, implement, and evaluate a computer-based solution to meet a given set of computing requirements in the context of the discipline. (ABET-2).
3. Graduates will be able to communicate effectively with a range of audiences about technical information. (ABET-3).
4. Graduates will be able to make informed judgments in computing practice based on legal and ethical principles. (ABET-4).
5. Graduates will be able to function effectively on teams to establish goals, plan tasks, meet deadlines, manage risk, and produce deliverables. (ABET-5).

Requirements

Code	Title	Credits
Core Requirements		39
College core requirements (p. 2)		
Major Requirements		33
CIS 1300	Information Systems and Technology	
CIS 1600	Introduction to Programming	
CIS 2700	Discrete Methods and Models	
CIS 3000	Software Engineering	
CIS 3100	Principles of Object Oriented Programming	
CIS 3150	Workplace Ethics	
CIS 3300	Database Analysis and Design	
CIS 3600	Networking and Telecommunications I	
PMGT 4030	Project Management Laboratory	
CIS 4960	Computer Information Systems Capstone Experience	
CIS Elective/Certification Options		
Concentrations (Select one of the following)		12
Data Analytics Concentration (p. 2)		
Healthcare Information System Concentration (p. 2)		
Information Security & Assurance Concentration (p. 2)		
General Electives		36
Total Credits		120

Data Analytics Concentration

Code	Title	Credits
Required Courses		
CIS 3850	Analytics and Modeling	3
CIS 4150	Data Governance	3
CIS 4720	Enterprise Application Development	3
CIS 4750	Data Mining	3
Total Credits		12

Healthcare Information Systems Concentration

Code	Title	Credits
Required Courses		
CIS 3850	Analytics and Modeling	3
CIS 4150	Data Governance	3
CIS 4400	Information Systems in Healthcare Organizations	3

CIS 4100	Enterprise Architecture	3
Total Credits		12

Information Security & Assurance Concentration

Code	Title	Credits
Required Courses		
CIS 4100	Enterprise Architecture	3
CIS 4300	The Fundamentals of Computer Forensics	3
CIS 4600	Information Assurance and Security	3
CIS 4720	Enterprise Application Development	3
Total Credits		12

Continuation Standards

Students must maintain a minimum 2.00 GPA.

SPS Core Curriculum Requirements

Code	Title	Credits
Communication and Technology		9
CMMK 1210	Public Speaking in Org. Life	
ENGL 2005	Writing & Research Methods	
ENGL 4005	Business and Professional Writing	
Critical Thinking and Problem Solving		6
CIS 2700	Discrete Methods and Models	
or CIS 2850 Principles of Data Analysis		
PHIL 1055	Intro to Phil: Self & Reality	
or PHIL 1105 Introduction to Philosophy: Critical Thinking		
Ethics, Values & Spirituality		9
THEO 1005	Theological Foundations	
PHIL 2055	Ethics	
THEO/SPR	One additional THEO or SPR course	
Engaging the Human Experience		15
HUM 1500	Engaging the Human Experience	
<i>Two Humanities courses</i>		
ARTH 1005	Approaching the Arts	
ARTH 3805	Twentieth Century Art	
ENGL 2025	Intro to Literary Study	
ENGL 2605	Introduction to Short Fiction	
ENGL 3275	American Literary Traditions to 1865	
ENGL 3295	American Literary Traditions: Special Topics	
ENGL 3335	World Literary Traditions III	
ENGL 3355	Selected Major British Authors	
ENGL 3545	Literature of the African Diaspora	
ENGL 3885	Writing Personal Narratives	
HIST 1115	Origins of the Modern World to 1500	
HIST 1125	Origins of the Modern World, 1500 to Present	
HIST 2615	History of the United States Since 1865	
HIST 3485	U.S. CIVIL WAR and RECONSTRUCTION, 1850-1877	
HIST 3525	Contemporary America, 1945 - Present	
HIST 3635	The Saint Louis Region	
PHIL 1055	Intro to Phil: Self & Reality	
PHIL 1105	Introduction to Philosophy: Critical Thinking	
PHIL 2055	Ethics	

PHIL 3605	Science and Religion	
SPR 3610	Spirituality: Work & Vocation	
SPR 3840	Women, Religion & Spirituality	
SPR 3890	Spirituality and Psychology	
SPR 4810	Spirituality, Peace & Justice	
SPR 4820	Spirituality: Ethics and Leadership	
THEO 2355	American Christianity	
THEO 3505	Marriage & Christian Vocation	
THEO 3795	Studies in Non-Christian Religious Traditions	
<i>One Natural Science course</i>		
BIOL 1385	Introduction to Ecology and Evolution	
BIOL 1405	Biology of Health and Disease	
BIOL 3305	The Biology of Plants and Animals	
BIOL 3415	Concepts in Ecology	
<i>One Social Science course</i>		
POLS 1105	Introduction to American Politics	
PSYK 1010	General Psychology	
PST 1900	Survey of Economics	
SOC 1105	Introduction to Sociology	
<i>One Diversity course</i>		
CIS 3150	Workplace Ethics	
CMMK 3650	Professional Communication Between Cultures	
ENGL 3330	World Literary Traditions III	
ENGL 3540	Literature of the African Diaspora	
HMGY 3100	International Travel & Tourism	
OSTD 3205	Interpersonal Relations in Org	
PSYK 3330	Applied Personality	
SOC 1105	Introduction to Sociology	
THEO 3795	Studies in Non-Christian Religious Traditions	
SPR 3840	Women, Religion & Spirituality	
Total Credits		39

Roadmap

Roadmaps are recommended semester-by-semester plans of study for programs and assume full-time enrollment unless otherwise noted.

Courses and milestones designated as critical (marked with !) must be completed in the semester listed to ensure a timely graduation. Transfer credit may change the roadmap.

This roadmap should not be used in the place of regular academic advising appointments. All students are encouraged to meet with their advisor/mentor each semester. Requirements, course availability and sequencing are subject to change.

Course	Title	Credits
Year One		
Fall		
Fall 1		
PST 1000	Learning Strateg., Processes,	3
ENGL 1505	The Process of Composition	3
Fall 2		
CIS 1150	Concepts & Applications of Technology	3

ENGL 2005	Writing & Research Methods	3
Credits		12
Spring		
Spring 1		
CIS 1300	Information Systems and Technology	3
CMMK 1210	Public Speaking in Org. Life	3
Spring 2		
CIS 1600	Introduction to Programming	3
ARTH 1005	Approaching the Arts	3
Credits		12
Summer		
HUM 1500	Engaging the Human Experience	3
CIS 3150	Workplace Ethics	3
Credits		6
Year Two		
Fall		
Fall 1		
CIS 2700	Discrete Methods and Models	3
PHIL 1055	Intro to Phil: Self & Reality	3
Fall 2		
CIS 2850	Principles of Data Analysis	3
PHIL 2055	Ethics	3
Credits		12
Spring		
Spring 1		
CIS 3100	Principles of Object Oriented Programming	3
THEO 1005	Theological Foundations	3
Spring 2		
CIS 3100	Principles of Object Oriented Programming	3
PSYK 1010	General Psychology	3
Credits		12
Summer		
Science Elective		3
ENGL 4005	Business and Professional Writing	3
Credits		6
Year Three		
Fall		
Fall 1		
CIS 3000	Software Engineering	3
General Elective		3
Fall 2		
CIS 3300	Database Analysis and Design	3
General Elective		3
Credits		12
Spring		
Spring 1		
CIS Track		3
SPR/THEO		3
Spring 2		
CIS Track		3
Humanities		3
Credits		12

Summer		
General Elective		3
General Elective		3
	Credits	6
Year Four		
Fall		
Fall 1		
CIS Track		3
General Elective		3
Fall 2		
PMGT 4030	Project Management Laboratory	3
General Elective		3
	Credits	12
Spring		
Spring 1		
CIS Track		3
General Elective		3
Spring 2		
CIS 4960	Computer Information Systems Capstone Experience	3
CIS Elective		3
	Credits	12
Summer		
General Elective		3
General Elective		3
	Credits	6
	Total Credits	120