INFORMATION TECHNOLOGY (BS)

This major prepares students who plan to design, create, and administer large information bases used by organizations.

Enterprises have an ever-growing investment in the exploding quantity of information, especially in web-related data, that requires increasingly sophisticated approaches for efficient access and productive use. Students gain the talents and skills to be successful in today's organizations following current industry practices: planning, designing, implementing, and administering data information and knowledge bases that can be effectively mined; assessing the information and data requirements of an organization and implementing these requirements as an information system; functioning as an effective member of an information services division in an organization.

The Bureau of Labor Statistics estimates a 16.7% growth rate in jobs (much higher than average) for computer and information systems managers for the period 2021 to 2031, and shows it with the highest median annual wage among the top 5 fastest growing occupations in each of the BLS occupation groups.

Related Programs

Major

- Information Technology (BA) (https://catalog.luc.edu/undergraduate/continuing-professional-studies/information-technology-ba/)

Combined

- Information Technology (BS/MS) (https://catalog.luc.edu/undergraduate/accelerated-bachelors-masters-program/information-technology-bsms/)
- Information Technology/Computer Science (BA/MS) (https://catalog.luc.edu/undergraduate/accelerated-bachelors-masters-program/information-technology-computer-science-ba-ms/)

Curriculum

Code	Title	Hours
Major Requirements		
Select one of the following:		3
STAT 103	Fundamentals of Statistics	
STAT 203	Introduction to Probability & Statistics	
ISSCM 241	Business Statistics	
PSYC 304	Statistics	
COMP 141	Introduction to Computing Tools and Techniques	3
COMP 163	Discrete Structures	3
or MATH 201	Introduction to Discrete Mathematics & Number Theory	
COMP 170	Introduction to Object-Oriented Programming	3
COMP 251	Introduction to Database Systems	3
COMP 264	Introduction to Computer Systems	3
or COMP 271	Data Structures I	
COMP 301	Introduction to Computer Security	3
COMP 317	Social, Legal, and Ethical Issues in Computing	3
COMP 377	IT Project Management	3
or ISSCM 349	Project Management	
Select six credit hours from the following:		6
COMP 305	Database Administration	
COMP 306	Data Mining	
COMP 343	Computer Networks	
COMP 353	Database Programming	
Practicum Capstone		
Select six credits taken from one or more of the following: [1]		6
COMP 312	Open Source Software Practicum	
COMP 390	Broadening Participation in STEM (Computing, Math & Science)	
COMP 391	Internship in Computer Science	
COMP 398	Independent Study	
Electives		
Select ten credit hours from the following including at most one of the first four courses: [2]		10
COMP 125	Visual Information Processing	
or COMP 150	Introduction to Computing	
COMP 250	Introduction to Scientific and Technical Communication	
or ENGL 210	Business Writing	
COMP 264	Introduction to Computer Systems [3]	
or COMP 271	Data Structures I	
COMP 272	Data Structures II	
MGMT 318	Organizational Development and Change	
MGMT 320	Leading and Managing Teams	
MGMT 335	Micro-Enterprise Consulting	
MGMT 360	Values-Based Leadership	
ENTR 201	Essentials of Entrepreneurship	
ENTR 311	Social Entrepreneurship	
ENTR 313	Entrepreneurship - Global Opportunity Scan	
ENTR 345	Entrepreneurial Marketing	
ENTR 390	Entrepreneurship Strategies - Capstone	
ISSCM 393	Requirements Analysis and Communication [3]	
COMP 300 level electives [4]		
Total Hours		**49**

[1] See the details of registering for these courses in the Computer Science Department website resources. Students are encouraged to complete these credits during junior and senior years to draw on prior experience. Note:
- COMP 312 is a 3-credit course
- COMP 390 is limited to 3 total credits
- COMP 391 and COMP 398 will usually be limited to 6 total credits each, but permission may sometimes be granted for more.

[2] Note that some COMP 300-level electives have a prereq of COMP 271 Data Structures I or higher, and MGMT and ENTR courses also have prereqs.

[3] You must take COMP 264 or COMP 271 as part of the Major requirements. The second one can be used as an elective if taken.

[4] MGMT 201 Managing People and Organizations plus ACCT 201 Introductory Accounting I may count in place of 3 credits of major

Electives, only if ISSCM 349 Project Management is completed to also count toward this major.

Suggested Sequence of Courses

The below sequence of courses is meant to be used as a suggested path for completing coursework. An individual student's completion of requirements depends on course offerings in a given term as well as the start term for a major or graduate study. Students should consult their advisor for assistance with course selection.

Course	Title	Hours
Year 1		
Fall		
COMP 150	Introduction to Computing [1]	3
COMP 141	Introduction to Computing Tools and Techniques	3
STAT 103	Fundamentals of Statistics [2]	3
CORE: Philosophical Knowledge Tier 1		3
CORE: College Writing Seminar		3
UNIV 101	First Year Seminar	1
	Hours	**16**
Spring		
COMP 170	Introduction to Object-Oriented Programming [3]	3
COMP 163	Discrete Structures	3
CORE: Historical Knowledge Tier 1		3
CORE: Ethics		3
CORE: Scientific Knowledge Tier 1		3
	Hours	**15**
Year 2		
Fall		
COMP 271 or COMP 264	Data Structures I or Introduction to Computer Systems	3
COMP 301	Introduction to Computer Security	3
COMP 251	Introduction to Database Systems	3
CORE: Theology and Religious Studies Tier 1		3
CAS Language Requirement 101 level [4]		3
	Hours	**15**
Spring		
COMP 377	IT Project Management [5]	3
COMP 317	Social, Legal, and Ethical Issues in Computing	3
ITEC-BS Restricted Elective		3
CORE: Societal & Cultural Knowledge Tier 1		3
CAS Language Requirement 102 level		3
	Hours	**15**
Year 3		
Fall		
ITEC-BS Restricted Elective		3
COMP Free Elective		3
COMP Free Elective		1
CORE: Literary Knowledge & Experience Tier 1		3
CORE: Artistic Knowledge & Experience		3
CAS Elective		3
	Hours	**16**
Spring		
COMP Free Elective		3
CORE: Theology and Religious Studies Tier 2		3
CORE: Scientific Knowledge Tier 2		3
CORE: Historical Knowledge Tier 2		3
CAS Elective		3
	Hours	**15**
Year 4		
Fall		
COMP Practicum		3
CORE: Literary Knowledge & Experience Tier 2		3
CORE: Societal & Cultural Knowledge Tier 2		3
CORE: Philosophical Knowledge Tier 2		3
CAS Elective		3
	Hours	**15**
Spring		
COMP Practicum		3
COMP Free Elective if COMP 150 not taken		3
CAS Elective		3
CAS Elective		3
CAS Elective		3
	Hours	**15**
	Total Hours	**122**

[1]   COMP 150 Introduction to Computing will apply to COMP Free Electives: Students with prior experience in computer programming, for example a high school course modeled on the Exploring Computer Science (https://www.exploringcs.org/) or Computer Science Principles (https://apcentral.collegeboard.org/courses/ap-computer-science-principles/) curriculum may replace this course with a different COMP Free Elective at any time during the program. A score of 4 or 5 on the AP CS Principles Exam will earn actual credit for this course.

[2]   May substitute STAT 203 Introduction to Probability & Statistics, ISSCM 241 Business Statistics, or PSYC 304 Statistics.

[3]   A score of 4 or 5 on the AP CS A Exam will earn credit for this course.

[4]   Language must be completed through the 102 course level or through an exam (https://www.luc.edu/cas/college-requirements/).

[5]   May substitute ISSCM 349 Project Management

General Notes

- Credits never can be double-counted for different categories of the requirements for the major. But a course may satisfy a major requirement and also satisfy a University and/or College requirement (e.g., Core, residency, Engaged Learning, Writing Intensive).
- It is usually not meaningful to combine a computing major or minor with another, the principal exception being CCFR-MINR; see more detail in the double-dipping rules (https://catalog.luc.edu/undergraduate/arts-sciences/computer-science/#policiestext).

College of Arts and Sciences Graduation Requirements

All Undergraduate students in the College of Arts and Sciences are required to take two Writing Intensive courses (6 credit hours) as well as

complete a foreign language requirement at 102-level or higher (3 credit hours) or a language competency test. More information can be found here (https://www.luc.edu/cas/college-requirements/).

Additional Undergraduate Graduation Requirements

All Undergraduate students are required to complete the University Core, at least one Engaged Learning course, and UNIV 101. SCPS students are not required to take UNIV 101. Nursing students in the Accelerated BSN program are not required to take core or UNIV 101. You can find more information in the University Requirements (https://catalog.luc.edu/undergraduate/university-requirements/) area.

Learning Outcomes

- Understanding of IT Fundamentals: This includes a broad understanding of areas such as networking, databases, website development, information systems, and IT project management.
- Proficiency in Technical Skills: Graduates should be proficient in a variety of programming languages, operating systems, and hardware configurations.
- Knowledge of Information Systems: This includes understanding how information systems are used to support business processes, strategic goals, and decision making.
- Problem-Solving Skills: Students should be able to analyze a problem and identify and define the computing requirements appropriate to its solution.
- Project Management Skills: Students should understand the principles of project management as they relate to IT projects, including planning, coordination, execution, and evaluation.
- Understanding of IT Infrastructure: This includes knowledge of IT architecture and infrastructure, such as networks, operating systems, software applications, and data centers.
- Understanding of IT Security: Students should have a basic understanding of the principles and best practices of information security, including how to protect networks, systems, and data from cyber threats.