

ACADEMIC MAP

Systems Programming, Bachelor of Science



First Year		Hours
Fall		
UNIV 1101	University Seminar I	1
ENGL 1301	Writing and Rhetoric I	3
COSC 1435	Introduction to Problem Solving with Computers I	4
MATH 2413	Calculus I	4
Social and Behavioral Sciences Core Requirement		3
Hours		15

Spring		
UNIV 1102	University Seminar II	1
ENGL 1302	Writing and Rhetoric II	3
or COMM 1311	or Foundation of Communication	
COSC 1436	Introduction to Problem Solving with Computers II	4
COSC 3301	Cyber Security	3
MATH 2305	Discrete Mathematics I	3
Hours		14

Second Year		Hours
Fall		
COSC 2334	Computer Architecture	3
COSC 2437	Data Structures	4
MATH 2414	Calculus II	4
POLS 2305	U.S. Government and Politics	3
Creative Arts Core Requirement		3
Hours		17

Spring		
ENGL 3310	Technical and Professional Writing for Computer Science	3
COSC 3324	Object-oriented Programming	3
COSC 3353	Survey of Programming Languages	3
POLS 2306	State and Local Government	3
Approved Upper-Division COSC Course		3
Hours		15

Third Year		Hours
Fall		
MATH 3342	Applied Probability and Statistics	3
or MATH 3345	or Statistical Modeling and Data Analysis	
COSC 3336	Introduction to Database Systems	3
COSC 3370	Software Engineering	3
MATH 3311	Linear Algebra	3
Science Sequence		4
COSC 3300	Computing Ethics and Professional Skills	3
Hours		19

Spring		
COSC 3346	Operating Systems	3
COSC 3373	Software Project Management	3
Approved Upper-Division COSC Course		3
American History Core Requirement		3
Science Sequence		4
Hours		16

Fourth Year		Hours
Fall		
COSC 4342	Computer Networks	3
COSC 4343	Algorithms	3
COSC 4353	Compiler Construction	3
or COSC 4360	or Principles of Programming	
or COSC 4370	Languages	
	or Models of Computation	
Approved Upper-Division COSC Course		3
American History Core Requirement		3
Hours		15

Spring		
COSC 4354	Senior Capstone Project	3
COSC 4348	Systems Programming	3
Approved Upper-Division COSC Course		3
Language, Philosophy & Culture Core Requirement		3
Hours		12
Total Hours		123



CAREER MAP

COMPUTER SCIENCE, INFORMATION SYSTEMS

Bachelor of Science



The systems programming option is for those who intend to pursue careers as systems programmers or pursue advanced study in computer science. The degree program has an emphasis in system software programming and requires a one-year sequence in a physical science with a laboratory component. Within this program, students analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions. Students also design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline. As a part of this degree, students will be able to communicate effectively, make informed judgments and function as a member or leader within computer science team using theory and software development fundamentals to produce solutions. In order to prepare students to attain the program educational objectives, the CS degree program has been structured to ensure that all students, by the time of their graduation, will have been enabled to meet the following outcomes: Analyze a complex computing problem, and to apply principles of computing and other relevant disciplines to identify solutions. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline. Communicate effectively in a variety of professional contexts. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline. Apply computer science theory and software development fundamentals to produce computing-based solutions.

CONTACT INFORMATION

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SKILLS/ATTRIBUTES

- Critical Thinking/Problem Solving
- Digital Technology
- Teamwork/Collaboration
- Professionalism/Work Ethic
- Oral/Written Communication
- Leadership

STUDENT ORGANIZATIONS

- Islander Women in Computer Science
- Advancement of Women in Science
- Computing Alliance of Hispanic Serving Institutions
- Cyber Defense Team
- SACNAS Chapter at Texas A&M University - Corpus Christi

ADDITIONAL SOURCES OF INFORMATION

1. Association for Computing Machinery
2. Association of Information Technology Professionals
3. International Webmasters Association
4. Software and Information Industry Association

CAREER OPTIONS

- Systems Programmer
- Embedded Systems Engineer
- Network Engineer
- Cybersecurity Analyst
- Computer Support Specialist
- Software Engineer
- Data Scientist
- Technical Consultant
- DevOps Engineer