ACADEMIC MAP

Cyber Security and Infrastructure, Bachelor of Science

TEXAS A&M UNIVERSITY CORPUS CHRISTI | FINISH IN 4

First Year

Fall

		Hours
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 or COMM 1311	Writing and Rhetoric II or Foundation of Communication	3
COSC 1436	Introduction to Problem Solving with Computers II	4
COSC 2348	Introduction to Scripting	3
MATH 2305	Discrete Mathematics I	3
	Hours	**14**

Second Year

Fall

COSC 2334	Computer Architecture	3
COSC 2437	Data Structures	4
COSC 2465	Linux Systems	4
POLS 2305	U.S. Government and Politics	3
Creative Arts Core Requirement		3
	Hours	**17**

Spring

COSC 2466	Network Systems	4
COSC 3336	Introduction to Database Systems	3
POLS 2306	State and Local Government	3
American History Core Requirement		3
Component Area Option Core Requirement		3
	Hours	**16**

Third Year

Fall

COSC 3351	Internet Programming	3
ENGL 3310	Technical and Professional Writing for Computer Science	3
COSC 4365	Windows Security	3
MATH 3342 or MATH 3345	Applied Probability and Statistics or Statistical Modeling and Data Analysis	3
COSC 3346	Operating Systems	3
	Hours	**15**

Spring

COSC 3370	Software Engineering	3
COSC 3300	Computing Ethics and Professional Skills	3
COSC 3372	Network Security	3
COSC 4310	Digital Forensics	3
Component Area Option Core Requirement		3
Approved Upper-Division COSC Course		3
	Hours	**18**

Fourth Year

Fall

COSC 4367	Firewall and Intrusion Detection Systems	3
COSC 3474	Cyber Defense I	4
American History Core Requirement		3
Life & Physical Science Core Requirement		3
	Hours	**13**

Spring

COSC 4354	Senior Capstone Project	3
COSC 4368	Penetration Testing	3
Approved Upper-Division COSC Course		3
Life & Physical Science Core Requirement		3
Language, Philosophy & Culture Core Requirement		3
	Hours	**15**
	Total Hours	**123**

CAREER MAP

COMPUTER SCIENCE, CYBER SECURITY & INFRASTRUCTURE
Bachelor of Science

TEXAS A&M UNIVERSITY CORPUS CHRISTI | FINISH IN 4

The cyber security and infrastructure option is for those who intend to pursue careers in network administration, system administration, web administration and cyber security experts. The computer science degree program is applied in nature and is designed to prepare students to begin or advance computing careers in business, industry, government, or education, or to pursue further study in computer science. The curriculum is oriented towards technical competencies required of a computer professional with emphasis on the development, evaluation, and integration of software systems. In order to prepare students to attain the program educational objectives, the BS 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

Career Counselor:
Career and Professional Development Center | UC 304 | 361.825.2628 | career.center@tamucc.edu

Internship Coordinator:
Dr. Mamta Yadav | RFEB 316N | 361.825.2688 | mamta.yadav@tamucc.edu

Department Contact:
Department of Computer Science | RFEB 361N | 361.825.2688 | mamta.yadav@tamucc.edu

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

- Cybersecurity Analyst
- Security Consultant
- Security Engineer
- Penetration Tester (Ethical Hacker)
- Incident Responder
- Software Engineer
- Network Security Engineer
- Forensic Analyst
- Security Operations Center Analyst
- Security Architect