## **ACADEMIC MAP**



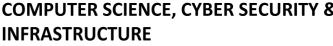
## Cyber Security and Infrastructure, Bachelor of Science

First Year		Usuma	Third Year		
Fall	11.	Hours	Fall		
UNIV 1101	University Seminar I	1	COSC 3351	Internet Programming	3
ENGL 1301	Writing and Rhetoric I	3	ENGL 3310	Technical and Professional Writing for	3
COSC 1435	Introduction to Problem Solving with Computers I	4	COSC 4365	Computer Science Windows Security	3
MATH 2413	Calculus I	4	MATH 3342	Applied Probability and Statistics	3
Social and Behavioral Sciences Core Requirement		3	or MATH 3345 or Statistical Modeling and Data Analysis		
	Hours	15	COSC 3346	Operating Systems	3
Spring				Hours	15
UNIV 1102	University Seminar II	1	Spring		
ENGL 1302	Writing and Rhetoric II	3	COSC 3370	Software Engineering	3
or COMM 1311			COSC 3300	Computing Ethics and Professional Skills	3
COSC 1436	Introduction to Problem Solving with	4	COSC 3372	Network Security	3
00000000	Computers II	0	COSC 4310	Digital Forensics	3
COSC 2348	Introduction to Scripting	3	Component Area Option Core Requirement		3
MATH 2305	Discrete Mathematics I	3	Approved Upper-Division COSC Course		3
	Hours	14		Hours	18
Second Year			Fourth Year		
Fall			Fall		
COSC 2334	Computer Architecture	3	COSC 4367	Firewall and Intrusion Detection Systems	3
COSC 2437	Data Structures	4	COSC 3474	Cyber Defense I	4
COSC 2465	Linux Systems	4	American History Core Requirement		3
POLS 2305	U.S. Government and Politics	3	Life & Physical Science Core Requirement		3
Creative Arts Core Requirement		3		Hours	13
	Hours	17	Spring		
Spring			COSC 4354	Senior Capstone Project	3
COSC 2466	Network Systems	4	COSC 4368	Penetration Testing	3
COSC 3336	Introduction to Database Systems	3	Approved Upper-I	Division COSC Course	3
POLS 2306	State and Local Government	3	Life & Physical Science Core Requirement		3
American History Core Requirement		3	Language, Philosophy & Culture Core Requirement		3
Component Area Option Core Requirement		3	Hours		15
Hours		16	Total Hours		123
	Hours	10			



# CAREER MAP

# **COMPUTER SCIENCE, CYBER SECURITY &**





Bachelor of Science

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

STUDENT ORGANIZATIONS

### **SKILLS/ATTRIBUTES**

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

#### • 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