

# DEPARTMENT OF COMPUTATIONAL, ENGINEERING, AND MATHEMATICAL SCIENCES

## Overview

The Department of Computational, Engineering, and Mathematical Sciences at Texas A&M University-San Antonio strives to provide a rich educational experience for Masters students interested in computing and cybersecurity. We emphasize hands-on experiential learning and critical thinking, and the participation of students in research under our faculty's mentorship. Our faculty research interests are many: cybersecurity, cyber-physical security, privacy-preserving AI, applied cryptography, natural language processing (NLP), machine learning, deep learning / deep neural network, computer vision, medical imaging, astrophysics imagery analysis, remote sensing, cloud computing, secure software engineering, and computing education. We strive to provide our students with leadership skills and values to prepare them for the workplace, for research, and for an ever-changing world. Experiential learning in laboratories and internships in local businesses, industry, and the government lay the pathway for rewarding careers in STEM areas.

## Programs

- Computer Science, Master of Science (<https://catalog.tamusa.edu/graduate/arts-sciences/computational-engineering-mathematics/mscs/>)
- Cyber Security, Master of Science (<https://catalog.tamusa.edu/graduate/arts-sciences/computational-engineering-mathematics/cyber-security-ms/>)

## Courses

### Computer Science

Code	Title	Credits
CSCI 5304	Database Systems	3
CSCI 5306	Computer Networks	3
CSCI 5311	Software Project Management	3
CSCI 5313	Artificial Intelligence	3
CSCI 5315	Big Data Analytics	3
CSCI 5316	Software Engineering	3
CSCI 5320	Decision Support Systems	3
CSCI 5321	Info Assurance/Risk Management	3
CSCI 5323	Cryptography/Secure Comm	3
CSCI 5325	Mobile App Development I	3
CSCI 5326	Security in Emerging Tech	3
CSCI 5327	Information Security	3
CSCI 5331	Enterprise Resource Plan Sys	3
CSCI 5332	Bus Intel/ Data Mining	3
CSCI 5337	Applications Programming	3
CSCI 5343	Algorithms	3
CSCI 5345	Mobile App Development II	3
CSCI 5353	Secure Software Development	3

CSCI 5362	Operating Systems	3
CSCI 5366	Software Quality Assurance	3
CSCI 5372	Cloud Computing	3
CSCI 5391	Graduate Seminar	3
CSCI 5393	Topics in Computer Science	3
CSCI 5395	Thesis	3

### Cyber Security

Code	Title	Credits
CSEC 5300	Research Seminar	3
CSEC 5304	Database Security	3
CSEC 5306	Computer Networks and Security	3
CSEC 5310	Advanced Topics in Computer Forensics	3
CSEC 5311	Big Data Analysis and Security	3
CSEC 5321	Information Assurance and Risk Management	3
CSEC 5322	Identity Management and Access Control	3
CSEC 5323	Cryptography and Secure Communication	3
CSEC 5326	Security in Emerging Technologies	3
CSEC 5327	Advanced Information Security	3
CSEC 5333	Programming for Cyber Security	3
CSEC 5350	Intrusion Detection and Hackers Exploits	3
CSEC 5370	Special Topics in Cyber Security	3
CSEC 5380	Cyber incident response	3