

Computer Science (CPSC)

CPSC 525 Current Topics in Cybersecurity 3 Credits (3,0)

Recent trends in cybersecurity. Specific content is highly dependent on world events and state of the cybersecurity discipline at the time of course offering.

Course Offered at: Daytona Beach

CPSC 527 System Exploitation and Penetration Testing 3 Credits (3,0)

Cyber attack techniques, common software vulnerabilities and how adversaries exploit them, penetration testing, secure system design and implementation.

Course Offered at: Daytona Beach

CPSC 528 Multi-Agent Systems 3 Credits (3,0)

Introduction to the agent-based paradigm, communications, interaction protocols, and architectures followed by distributed problem solving, distributed search algorithms, distributed decision making, distributed learning, distributed control algorithms, and swarming.

Course Offered at: Daytona Beach

CPSC 529 Computer Security 3 Credits (3,0)

Security issues in computer-based infrastructure. Confidentiality, integrity, availability, access control, security models, intrusion detection, auditing, and other contemporary issues.

Course Offered at: Daytona Beach

CPSC 532 Software Security Assessment 3 Credits (3,0)

Software security assessment for developing and legacy systems. Software vulnerability fundamentals, auditing and black box testing, design, implementation, and operational vulnerabilities, design and operational review, attack surface; insecure defaults; access control; secure channels, application review process, code-auditing strategies, software vulnerabilities, assessing memory corruption, synchronization and state, vulnerabilities in practice, documentation of findings.

Course Offered at: Daytona Beach

CPSC 538 Applied Cryptography 3 Credits (3,0)

Cryptography concepts, techniques, and tools. Their use during system design, implementation, and maintenance.

Course Offered at: Daytona Beach

CPSC 555 Artificial Intelligence 3 Credits (3,0)

Fundamental topics in artificial intelligence and machine learning. Application of AI/ML to real-world problems. Problem-solving, classification, regression models, neural networks, and deep learning.

Course Offered at: Daytona Beach

CPSC 599 Special Topics in Computer Science 1-6 Credit (1-6,0)

Individual, independent, or directed studies of selected topics in computer science.

Course Offered at: Daytona Beach, Prescott

CPSC 600 Advanced Algorithms 3 Credits (3,0)

Advanced algorithms, data structures, problem-solving techniques, algorithmic thinking, optimization problems, and current research trends in algorithm design.

Course Offered at: Daytona Beach

CPSC 602 Big Data Analytics for Cybersecurity 3 Credits (3,0)

Big data analytics techniques for cybersecurity. Application of statistical and computational methods to secure data infrastructure. Emphasis on detecting cyber threats and providing actionable cybersecurity decisions.

Prerequisites: DSCI 540

Course Offered at: Daytona Beach

CPSC 690 Graduate Research Project 3 Credits (3,0)

Master-level research project under advisor supervision. Focus on advanced topics in computer science or cybersecurity engineering. Requires faculty advisor and program coordinator approval of goals, plan, and deliverables.

Course Offered at: Daytona Beach

CPSC 699 Special Topics in Computer Science 1-6 Credit (1-6,0)

Individual, independent, or directed studies of selected topics in computer science.

Course Offered at: Daytona Beach, Prescott

CPSC 700 Graduate Thesis 1-9 Credit (1-9,0)

Master-level research project in computer science conducted under supervision of research advisor and thesis committee approved by the program coordinator. Thesis committee approval of an oral defense and final thesis report is required at the culmination of the research project.

Course Offered at: Daytona Beach

CPSC 800 Dissertation 1-9 Credit (1-9,0)

Ph.D. research under advisor and thesis committee supervision; submission of a final report, approved by the dissertation committee; oral defense of research required for dissertation credits.

Course Offered at: Daytona Beach