



**Master of Science in Computer Science**  
**(CAE Cyber Systems and Operations specialization)**  
**Naval Postgraduate School**

**Core Computer Science Courses**

CS2011 Computing System Principles (4-0)  
CS3021 Intermediate Programming & Data Structures (4-2)  
CS3040 Low-Level Programming I (4-2)  
CS3060 Database Systems (3-1)  
CS3070 Operating Systems (3-2)  
CS3101 Theory of Formal Languages and Automata (4-2)  
CS3140 Low-Level Programming II (3-2)  
CS3150 Design and Analysis of Algorithms (4-0)  
CS3200 Computer Architecture (3-2)  
CS3250 Introduction to Cyber-Physical Systems (3-2)  
CS3310 Artificial Intelligence (4-1)  
CS3315 Introduction to Machine Learning and Big Data (3-1)  
CS3502 Computer Communications & Networks (4-2)  
CS3600 Introduction to Computer Security (4-2)  
CS4900 Technology and Transformation 1 (2-0)  
CS4903 Research Methods in CS (2-0)  
CS4924 Seminar Series in Computer Science and Cyber Operations (1-0)  
OS3307 Modeling Practices for Computing (4-1)  
CS0810 Thesis Research (0-8) – 3 to 4 instances of this course comprise total thesis time

**Cybersecurity and Defense Specialization and Elective Courses**

CS3004 Human-Computer Interaction (3-2) **(Optional)**  
CS3670 Secure Management of Systems (3-2) **(Optional)**  
CS3690 Network Security (4-1) **(Optional)**  
CS4538 Mobile Device and Wireless Security (3-1) **(Optional)**  
CS4600 Secure Computer Systems (3-2) **(Mandatory)**  
CS4648 Advanced Cyber Munitions (3-2) **(Mandatory)**  
CS4677 Computer Forensics (3-2) **(Optional)**  
CS4678 Advanced Cyber Vulnerability Assessment 4-1) **(Optional)**  
CS4679 Advanced Cybersecurity Operations (4-1) **(Mandatory)**  
CY4710 Adversarial Cyber Operations (3-2) **(Optional)**  
EC3740 Reverse Engineering in Electronic Systems (3-2) **(Optional)**  
EC3800 Microprocessor-Based System Design (3-2) **(Optional)**

All core courses must be completed. **All courses associated with mandatory CAE-CO knowledge unit requirements and at least four CAE-CO meeting optional knowledge unit requirements** must be completed to qualify for certification of completion of the National Centers of Academic Excellence in Cybersecurity Program in Cyber Operations. The list given here may be a subset of those courses required of certain students in Computer Science program. Examples include Joint Professional Military Education courses required of many military students.