Naval Postgraduate School
Master of Science in Computer Science
(MS in Computer Science, NCAE Cybersecurity Defense Specialization)
Program of Study

To qualify for a certificate of completion of the National Centers of Academic Excellence in Cybersecurity Program in Cybersecurity Defense Education (NSA NCAE CDE) certificate, students must complete or validate the following:

1. All core courses listed in Table 1.
2. All specialization courses required to meet mandatory CAE-CDE knowledge unit requirements, as shown in Table 2,
3. At least four CAE-CDE elective courses from Table 3 meeting optional knowledge unit requirements, as shown in Table 3.

The list given here is sufficient for a degree in Computer Science from the Naval Postgraduate School; however, it may be a subset of the courses required of certain students in the NPS MS in Computer Science program. Examples include Joint Professional Military Education courses required of many military students and additional courses needed to meet particular Navy Subspecialty P-code requirements.

Courses required to meet NCAE-CDE knowledge units are highlighted.

Table 1. CAE-CDE Program of study – core classes	
Course No.	Course Title
CS0810	Thesis Research
CS2011	Computing System Principles
CS3001	Formal Foundation of Computer Science
CS3021	Intermediate Programming & Data Structures
CS3040	Low-Level Programming
CS3060	Database Systems
CS3070	Operating Systems
CS3101	Theory of Formal Languages and Automata
CS3140	Low-Level Programming II
CS3150	Design and Analysis of Algorithms
CS3200	Computer Architecture
CS3310	Artificial Intelligence
CS3315	Introduction to Machine Learning and Big Data
CS3502	Computer Communications & Networks
CS3600	Introduction to Computer Security
CS4900	Technology and Transformation 1
CS4903	Research Methods in Computer Science
CS4924	Seminar Series in Computer Science and Cyber Operations
OS3307	Modeling Practices for Computing

Table 2. CAE-CDE Mandatory Knowledge Unit Courses	
Course No.	Course Title
CS3670	Secure Management of Systems
CS3690	Network Security
CS4538	Secure System Principles
CS4684	Cybersecurity Incident Response and Recovery