**FREQUENTLY ASKED QUESTIONS**

**WHAT ARE THE PREREQUISITES?**
- Acceptance by the ECE Department. Process requires a sufficient background in mathematics and technical undergraduate studies. Applicants with a BSEE degree will usually satisfy the requirements.
- Command/Company Endorsement.

**IS THERE A SERVICE COMMITMENT?**
Per OPNAVINST 1520.23C, a Naval officer will incur a 1 year service obligation upon completion or withdrawal from the Certificate Program, which is served concurrently with any other service obligation. All students must submit a signed Participation Agreement prior to enrolling in the program.

**WHO IS ELIGIBLE?**
Applicants with a US government affiliation, government laboratory engineers, active or reserve military personnel, Navy civilians, current NPS resident students, and a limited number of contractors sponsored by Department of Defense (DOD) organizations.

**WHEN DOES THE PROGRAM START?**
Annually, beginning in the Fall quarter.

**HOW LONG DOES IT TAKE TO COMPLETE?**
 Usually 3 quarters (1 course per quarter).

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**CONTACT INFORMATION**

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For more information on the ECE department, go to:
www.nps.edu/ece

For more information on other NPS DL programs, go to:
www.nps.edu/dl
The Fault Tolerant Computing Certificate Program provides a solid foundation in an area of significant importance and promise. Students will experience a mix of instruction and hands-on laboratory work.

**THE CURRICULUM**

**EC3800 Microprocessor Based System Design (3-2)**
Advanced microprocessor system for embedded control applications. Topics include CPU operation and timing, address decoding, exception processing, design of static and dynamic memory systems, bus arbitration, and direct memory access controllers. The laboratory consists of a design project integrating hardware and software using a state-of-the-art development system.

**EC4810 Fault Tolerant Computing (3-2)**

**CS4920 Advanced Topics (3-2)**
Designed to support advanced group study of reliability through software. Rollback and recovery techniques.

**Graceful degradation through self-test and repair**

Much of the cost of digital systems is due to testing. As a result, there is much research on the Design for Testability (DFT) problem. Here, the designer adds circuits whose only purpose is to ease the testing burden. It may be as simple as connecting an internal point to an output pin to make it accessible as a test point. Often, it involves sophisticated changes to the circuit. Students in the Fault Tolerant Computing Certificate Program will study these concepts both in the classroom and the lab.

**Advance Your Career!**

Upon completion of the Fault Tolerant Computing Certificate Program, students will have the practical experience and cognitive skills required to:

- Analyze, design and evaluate fault tolerant computer systems and apply these skills in a military systems environment.
- Apply knowledge of conventional microprocessor and programming fault tolerant computer systems using Verilog simulations.
- Analyze, design and evaluate hardware fault tolerant computer systems by applying knowledge of test techniques, hardware redundancy techniques, design-for-testability, built-in self test and systems diagnosis.
- Analyze, design and evaluate software fault tolerant computer systems by applying knowledge of software implemented redundancy, rollback, and recovery.