OC4335 Naval Ocean Analysis and Prediction (NOAP)

Distinguished Professor Peter C. Chu

Pre-requisite

OC4323 Numerical Air-Ocean Modeling (or concurrent)

Course Description

This course is designed for educating Navy officers with the most sophisticated methods, models, theories, and techniques currently used in the Naval Oceanographic Institutions. The course covers the Navy's needs for ocean prediction, the Navy's modeling and prediction program, and almost all the Navy's ocean analysis and prediction systems.

This course will show students a big picture of the U.S. Navy's operational ocean prediction system, as well as the research and development counterpart. Through the course work, students will understand the physics, formulation, strengths, and weaknesses of each model. Through the lab work (all the labs are simplified versions of the Navy's models), students will have a chance to implement and evaluate each of the provided models.

A good understanding of the Navy's ocean analysis and prediction systems (including their strengths and weaknesses) will assist students in pursuing their Navy relevant thesis research (short term) and supply them with a good foundation for providing tactical modeling support to the fleet throughout their oceanographic careers (long term).

Syllabus

- Lab 7 Shipboard Ocean Analysis and Prediction
- Lab 8 Wave Prediction by the Navy's WAM
- Lab 9 Arctic Ice Prediction by PIPS