Course Wide Policies

Introduction

The world is becoming increasingly technologically advanced. The modern individual must rely on a technical foundation to positively contribute to teams and problem solving. A Naval Officer benefits from a solid foundation in engineering principles, whether their duties are to make policy decisions, command skilled enlisted personnel, maintain and operate state-of-the-art equipment or partner with civilian technicians and engineers.

USNA recognizes this fact and consequently maintains a requirement for students majoring in the Division of Mathematics and Science, Division of Humanities and Social Sciences and General Engineering to complete certain engineering courses. Principles of Ship Performance (EN400) is just such a course. Affectionately known as ‘Boats,’ the course is relevant to all future Naval and Marine Corp Officers, regardless of designator. Even if your future career path takes you into the skies or the mud, you will interface with things that float. You have entered a seafaring service.

The Course

EN400 both develops a general technical foundation and applies these principles specifically to how ships function. EN400 also approaches material to balance the training needs of a future ship operator with the required level of mathematics and science understanding suitable for a Bachelor of Science degree.

Students are introduced to a number of different engineering practices including mathematical approximation, graphical interpolation and engineering modeling. These practices may appear difficult to comprehend at first. Remember, they are being taught for a relevant purpose.

Course material is organized into chapters which can largely be viewed as ‘stand alone,’ however the information and techniques used in early chapters will be called upon again. The first chapter delivers a basic level of engineering knowledge that students should be familiar with before the course begins. Students are advised to read Chapter 1 before the first day of class, as instructors only provide a brief overview of its contents. If there are areas of Chapter 1 requiring further assistance, raise concerns early and seek extra instruction. The understanding of this pre-requisite information is vital for the Naval Engineering that follows.
Laboratories

EN400 consists of 9 laboratory experiments ranging from computer labs to model boat towing in the hydrodynamics laboratory (hydro lab). They are a vital element in understanding the course material, totaling 40% of the time available per week. The theory and techniques first presented in the classroom will come to life in the lab periods. Many labs have pre-lab sections to bridge this gap between reading, lecture, and experimentation. The theory and techniques to be employed in the lab are explained, and ensuring completion of the pre-lab before any lab leads to a smooth experiment and more enjoyable experience.

Instructor Policy

Your section instructor will provide their own teaching, examination, and grading policy during one of your first classes. Indeed, the everyday classroom environment is their responsibility. In general, the course provides one homework and one lab per chapter. One quiz is administered between each of the major exam periods. These are not merely an assessment tool for the instructor, but also a means by which students can assess their own progress in the subject, before an exam. Failure to submit work on time will hurt your grade directly, but it will also remove this valuable self-assessment tool.

Conclusion

The facilities in Rickover Hall are some of the best available anywhere in the world, and instructors and laboratory staff will add a great deal of technical and fleet experience to the course material. Make the most of your time remaining before commissioning. Come prepared to lessons and laboratories. You will only get out of this course the effort you put into it.

EN400 Course Coordinator