

NE 224: Introduction to Ship Design and Ship Building (Spring 2023)

Instructor: Prof. An Wang, Office: 205 Davidson Lab Building, awang38@stevens.edu

Lectures: Mondays, 2:00 pm to 4:50 pm, 203 Babbio.

Office Hours:

Wang: Wednesdays 1:30 pm -2:30 pm, 5:00 pm - 6:00 pm.

Grades: Tentative.

Homework	25% of course grade
Midterm examination	35% of course grade
Final examination	40% of course grade

Homework: upload via Canvas (preferred) or hardcopy to 205 Davidson, typically one week after assignment

Exams schedule: Tentative.

Midterm examination	3/6 Monday
Final examination (close book)	TBD

Exam Format: Exams will consist of two portions: 1) close-book, close-notes portion and 2) open-book portion. Internet access is NOT allowed in either portion of the exam. Calculator without programming function is allowed.

Course Outline: Tentative.

1. Week 1
Mon (1/16) No class (semester starts on 1/18)
2. Week 2
Mon (1/23) Introduction
3. Week 3
Mon (1/30) Terminology, Hull Form, Lines Drawing, Table of Offsets (Chapter 2, Zubaly)
4. Week 4
Mon (2/6) Hull Form Coefficients, Rules of Integration (Chapter 2, Zubaly)
5. Week 5
Mon (2/13) Buoyancy and equilibrium, static transverse stability (Chapter 3, Zubaly)
6. Week 6
Wed (2/22) Static transverse stability at large angle (Chapter 4, Zubaly)
7. Week 7
Mon (2/27) Static longitudinal stability (Chapter 5, Zubaly)
8. Week 8 Mon (3/6) Midterm exam
9. Week 9: No class, Spring break

10. Week 10
Mon (3/20): Flooding and subdivision (Chapter 6, Zubaly)
11. Week 11
Mon (3/27): Flooding and subdivision (Chapter 6, Zubaly)
12. Week 12
Mon (4/3): Ship structure and strength (Chapter 7, Zubaly)
13. Week 13
Mon (4/10): Ship structure and strength (Chapter 7, Zubaly)
14. Week 14
Mon (4/17): Ship resistance (Chapter 8, Zubaly)
15. Week 15
Mon (4/24): Ship resistance (Chapter 8, Zubaly)
16. Week 16
Mon (5/1): Other topics, review

Textbooks:

- **(Required)** *Applied Naval Architecture* by Zubaly R.M., SNAME 1996, ISBN: 0-939773-20-1
- **(Recommended)** *Principles of Naval Architecture*, Lewis E.V., SNAME 1988 ISBN: 0-939773-00-7