DALHOUSIE University

DEPARTMENT OF MECHANICAL ENGINEERING

MECH 4450 Marine Craft Design and Construction

2003/2004 Winter Term

Instructor: Dr. Wei Qiu, P.Eng.

Lectures: 11:35am-12:55pm, Tuesday and Thursday, B227

Tutorial/Lab: 3:35-5:25pm, Wednesday, B227

Textbook: Basic Ship Theory (5^{th} Edition) by K.J. Rawson and E.C. Tupper
Publisher: Butterworth-Heinemann.

Contact: qiuw@dal.ca

Course Description

This course deals with design and construction methods for marine crafts. It requires students to complete a preliminary design of a small marine vessel. Topics include: engineering and economic principles governing selection of dimensions and coefficients for marine craft, computer-aided design, design and generation of hull forms, performance and operability in the ocean environment, model construction, verification of hull form design using towing tank tests, and structural analysis and design.

Course Outline

Description	Chapter
• Ship Design	15
• Structural Design and Analysis	6, 7
• Propeller Design	11
• Seakeeping and Maneuverability	12, 13
• Design Project	Handouts

Note that the outline may change slightly as we move along.

Course Design Project

Each group is required to complete the preliminary design of a marine craft.

Grades

Grades for the course evaluation will be determined as follows:

• Midterm 1 (5^{th} week)	30%
• Midterm 2 (10^{th} week)	30%
• Design Project	40%
	100%

Please note that there will be NO supplemental examination in this course.