

5331 - ELEMENTARY SHIP DESIGN										
Teaching Schedule Per Week			Progressive Assessment		Examination Schedule (Marks)					
Lectures	Practical	Credits			Theory		Practical Ex.		Total	
6	-	6	25	-	3 Hrs	100	-	-	125	
Pre-requisite		Source	Semester	Theory		Test	Total	TW	PR	Gr Total
4335, 4339		SHB		75	25	100	-	-	-	100

Rationale: The course content is designed to enable the students to understand design features of various ships, factors influencing design, rules and regulations of statutory bodies. An introduction to modern ship design process using computers will help students to appreciate the latest technological development in this field.

COURSE CONTENTS	Hrs	Mks
1. FACTORS IN DESIGN	8	8
Specific features of different ships, trading patterns, owners requirement.		
2. PRELIMINARY DESIGN		
Determination of main dimensions: Design categories-Dead weight carrier, volume carrier, displacement equation, volume equation and displacement coefficient, Estimation of form coefficients and hydrostatic particulars.	16	16
Weight estimation.	5	4
Light ship mass-Steel mass, outfit mass, engine plant mass, power estimation, admiralty coefficient. Checking of preliminary dimensions for dead weight, estimation of cargo capacity.	14	16
Design spiral.	3	6
3. HULL FORM DESIGN	15	16
Modification of sectional area curve of the basis ship. Development of lines from sectional area curve		
4. EFFECTS ON DESIGN REQUIREMENTS	12	12
Effects of freeboard, tonnage, stability and subdivision on design of ships- Freeboard requirements, tonnage requirements, stability requirements, sub-division requirements.		
5. GENERAL ARRANGEMENT	14	16
Crew and passenger accommodation, safety regulations.		
6. SPECIFICATION AND CONTRACTS	5	6
7. INTRODUCTION TO CAD PACKAGES	4	0
Total	96	100

REFERENCE BOOKS

1. Ship design for Efficiency & Economy by H.Schneekluth [Butter Worths]
2. Principles of Naval Architecture by John Comstock [SNAME]
3. Ship design and construction by Taggart [SNAME]
5. Elements of Ship Design by Munro-Smith.

