



Indian Institute of Technology

Course Details Report

Course No: OE4080

Course Name: Analysis and Design Tools in Marine Hydrodynamics

Course Type:

Theory

Description:

Basic graphical and computational tools required for naval architecture. The students will have hands-on experience in all the tools.

Course Content:

Students will be introduced to tools such as AutoCAD, Mathcad, Matlab and Fortran. The students will be given the opportunity to consolidate the theoretical knowledge gained in other modules through computational exercises - FFT; hydrostatic calculations; Stability, damage stability, Bonjean curves, wave loads estimations; Wave kinematics, manoeuvring Graphical tools – Paraview; Techplot; Matlab. Wave forecasting models - WAM; SWAN; Analysis of floating structures with ANSYS-AQUA. Particular emphasis will be given to ANSYS graphical user interface (GUI) and Workbench platform; FEM Software tools. Analysis of Marine vehicle- NAPA-, Paramarine, CFD tools – OPENFOAM; FLUENT; STARCCM+.

Text Books:

NA

Reference Books:

Theory and user manuals for all the software