



ENA Optional Elective Tracks

Naval Architecture 1/C take three technical electives; two major electives and a “math-science-engineering” (MSE) elective. Students with interests in a particular area may voluntarily follow a “track” designed to provide a coherent subspecialty.

Select three courses in one area below to constitute a track.

Related EN495/496 (Independent Research) courses may substitute up to two courses and other courses (such as EN485/486) may be substituted with the approval of the Naval Architecture Program Director. As some of the courses below will meet the MSE but not the major elective requirements, check the current MIDS matrix module for your year to make sure your choices will fit.

Construction Management Track

EN445 Marine Fabrication Methods
EN450 Engineering Economics **or** FE342 Economic Methods for Engineers (one is required)
EN486a Project Management **or** EM486I Engineering Project Management (one is required)
ES461 Quantitative Methods for Management
FE320 Cost Accounting

Design Track

EN458 Advanced Marine Vehicles (required)
EN478 Submarine and Submersible Design
EN451 Analytical Applications in Ship Design
EN452 Structural Reliability
EM371 Introduction to Design
EM477 Computer Aided Design (Prereq: EM371)

Marine Power Systems Track

EN485M Shipboard Machinery and Systems
EM320 Applied Thermodynamics (prereq EM319, which counts in place of EM317)
EM461 Engines: Principles, Design and Applications (prereq EM320)
EM474 Gas Turbines (prereq EM320)
EM362 Reactor Physics 1
EM463 Reactor Physics 2 (prereq EM362)

Materials and Structures Track

EN445 Marine Fabrication Methods
EN452 Structural Reliability
EN485C Applied Engineering for Marine Casualty Response and Salvage
EM433 Computer Aided Manufacturing
EM436 Mechanics of Composite Materials
EM453 Materials Processing and Fabrication
EM434 Advanced Mechanics of Materials
EM458 Failure Analysis