Composite Certificate to MEng-ME Path

1. MEng in Mechanical Engineering Requirements

MEng Program Core Courses
(12 CREDITS)
1. ENGR 5311 Professional Communication and Information Management
2. ENGR 5312 Engineering Project Planning and Management
3. ENGR 5314 Advanced Engineering Mathematics
4. ENGR 5315 MEng Capstone Project

Mechanical Engineering Concentrations

SYSTEM & MECHANICS
(18 credits)
Concentration Core Courses
(12 CREDITS; ANY 4 OF THE FOLLOWING 7)
1. ME 5105 Basic Concepts of Continuum Mechanics
2. ME 5150 Analytical & Applied Kinematics
3. ME 5155 Geometric Modeling
4. ME 5160 Theory and Design of Automatic Control Systems
5. ME 5180 Dynamics
6. ME 5190 Advanced Mechanics of Materials
7. ME 5420 Mechanical Vibrations

Plus two additional courses in ME

THERMAL & FLUID SCIENCES
(18 credits)
Concentration Core Courses
(12 credits, any 4 of the following 6)
1. ME 5110 Advanced Thermodynamics
2. ME 5120 Advanced Thermo-Fluids I
3. ME 5130 Advanced Heat and Mass Transfer
4. ME 5140 Heat and Mass Transfer in Multiphase Systems
5. ME 5311 Computational Methods of Viscous Fluid Dynamics
6. ME 6170 Combustion and Air Pollution Engineering

Plus two additional courses in ME

2. Composite Certificate Requirements

Required Courses
(6 CREDITS)
All students must take the following two core courses:
1. ME 5430 Mechanics of Composite Materials
2. ME 5442 Composite Design

Elective Courses
(6 CREDITS)
Students can take two of the following four courses to complete the certificate:
1. MSE 5320 Behavior of Composites
2. MSE 5364 Advanced Composites
3. ME 5443 Composites Manufacturing
4. ME 5522 Advanced Analysis of Composite Materials & Structures

3. Proposed Path from Composite Certificate to MEng Degree

A student who has completed the composite certificate program will need to submit an official application to the MEng program. Admission will be based on the nominal requirement for MENG application plus the GPA, for the courses taken during the certificate program, being 3.0 or above. Once admitted, the student will follow the Systems & Mechanics concentration, and need to take two additional, core courses from the 7 listed under that concentration. The students will need to also take the MENG program core courses in order to graduate.