

# Composite Certificate to MEng-ME Path

## 1. MEng in Mechanical Engineering Requirements

### MEng Program Core Courses (12 CREDITS)

- ENGR 5311** Professional Communication and Information Management
- ENGR 5312** Engineering Project Planning and Management
- ENGR 5314** Advanced Engineering Mathematics
- ENGR 5315** MEng Capstone Project

## Mechanical Engineering Concentrations

### SYSTEM & MECHANICS (18 credits)

#### Concentration Core Courses (12 CREDITS; ANY 4 OF THE FOLLOWING 7)

- ME 5105** Basic Concepts of Continuum Mechanics
- ME 5150** Analytical & Applied Kinematics
- ME 5155** Geometric Modeling
- ME 5160** Theory and Design of Automatic Control Systems
- ME 5180** Dynamics
- ME 5190** Advanced Mechanics of Materials
- 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)

- ME 5110** Advanced Thermodynamics
- ME 5120** Advanced Thermo-Fluids I
- ME 5130** Advanced Heat and Mass Transfer
- ME 5140** Heat and Mass Transfer in Multiphase Systems
- ME 5311** Computational Methods of Viscous Fluid Dynamics
- 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:

- ME 5430** Mechanics of Composite Materials
- ME 5442** Composite Design

### Elective Courses (6 CREDITS)

Students can take two of the following four courses to complete the certificate:

- MSE 5320** Behavior of Composites
- MSE 5364** Advanced Composites
- ME 5443** Composites Manufacturing
- 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.

