

# Fluids and Thermal Systems

## Course Selection Guidance for Students with Interests in Fluids and Thermal Systems

The principal disciplines within Fluids and Thermal Systems are

- Fluid dynamics
- Heat transfer
- Combustion

Suggested core courses:

- MAE 6510 Advanced Heat Transfer (Fall)
- MAE 5430 Combustion Processes (Fall)
- MAE 5230 Intermediate Fluid Dynamics with CFD (Spring)

Typically, students take two or more of these core courses.

Follow-on courses include:

- MAE 6240 Physics of Micro and Nanoscale Fluid Mechanics (Fall) (not offered 2019-20)
- MAE 6330 Multiphase Flow Dynamics (Fall)
- MAE 6020 Foundations of Fluid Mechanics II (Spring) (not offered 2019-20)
- MAE 6430 Computational Combustion (Spring)

Most students could benefit from taking a course in Applied Mathematics such as:

- MAE 3100 Intro to Applied Math (Fall) (not offered 2019-20)
- MAE 6810 Methods of Applied Mathematics I (Fall)
- CEE 6000 Numerical Methods for Engineers (Fall) (not offered 2019-20)

Additional courses to broaden engineering knowledge

- MAE 5730 Intermediate Dynamics and Vibrations (Fall)
- MAE 6110 Foundations of Solids Mechanics (Fall)