ME 7330: CONVECTIVE HEAT AND MASS TRANSFER

**Instructor:** Professor Scott K. Thomas, Tel: 775-5142, Rm. 124 Russ Center, scott.thomas@wright.edu  http://www.cs.wright.edu/people/faculty/sthomas/me736.html

**Class Hours:** 6:10 to 7:30 p.m. M W, Rm. 155 Russ Center

**Office Hours:** 5:00 to 6:00 p.m. M W, or by appointment


**Course Grade:** 20% mid-term exam, 25% final exam, 30% computer programming projects, 25% problem sets

**Final Exam Period:** Wednesday, April 24, 5:45 p.m. to 7:45 p.m.

**Course Outline:**

1. Conservation principles: conservation of mass, momentum, energy
2. Introduction to heat conduction in solids
3. Boundary layer concept: continuity, momentum, mass diffusion, energy equations
4. Integral equations of the boundary layer: displacement, momentum, enthalpy, conduction thicknesses
5. Laminar flow inside tubes: momentum transfer, heat transfer
6. Laminar external flow: momentum transfer, heat transfer
7. Turbulent flow inside tubes: momentum transfer, heat transfer
8. Turbulent external flow: momentum transfer, heat transfer
9. Special topics

**References:**