ME 530 Fluid Dynamics
Instructor: Ralph Budwig
Advanced fluid mechanics theory and applications in potential flow, boundary layer theory, viscous flow, turbulence, vorticity dynamics and circulation, compressible flow and gas dynamics, open channel flow, turbomachinery, stratified flow, laws, and introduction to computational fluid dynamics.
PREREQ: CE 330 or ENGR 330 or ME 330, MATH 275, and MATH 333.

ME 566 Dynamic Modeling and Control of Engineering Systems
Instructor: John Gardner
ME 566 DYNAMIC MODELING AND CONTROL OF ENGINEERING SYSTEMS (3-0-3)(F/S/SU). Multi-physics modeling of lumped parameter systems. Theoretical basis of system response including classical differential equations, state space methods, Laplace and frequency domain approaches. Closed loop stability and overview of SISO control system specification and design. Emphasis on computer simulation and model verification. PREREQ: Graduate standing or PERM/INST.

ME 570 Finite Element Methods
Instructor: Clare Fitzpatrick
Theoretical development of finite element methods, solution algorithm formulation, and problem solving in stress analysis, heat transfer, and fluid flow. PREREQ: ENGR 220, and CE 350 or ENGR 350 or ME 350, and PERM/INST.

ME 577 Biomaterials
Instructor: Gunes Uzer
Theory of biomaterials science. Medical and biological materials and their applications. Selection, properties, characterization, design and testing of materials used by or in living systems. May be taken for BIOL, ME, or MSE credit, but not from more than department. PREREQ: ENGR 245 or CHEM 112.

ME 597 Gas Dynamics
Instructor: Don Plumlee
This course will focus on the analysis of compressible fluid flow. Topics will include basic equations of compressible flow, wave propagation in compressible media, isentropic flow of a perfect gas, normal shock waves, oblique shock waves, flow with friction and heat transfer, methods of characteristics, and measurement in compressible flow.

For more information on a graduate degree with the Mechanical and Biomedical Engineering Department, contact Dr. John Gardner, Graduate Program Coordinator, at 208-426-5702 or mbegradapps@boisestate.edu

STEM professionals interested in supplementing, broadening, and enhancing their technical expertise, but who are not in a position to commit to a particular graduate program, are encouraged to apply to the Graduate College as a non-degree-seeking graduate student. Upon meeting eligibility requirements, non-degree-seeking graduate students may take courses that align to their interests.