The 2016-2017 academic year promises great opportunities in our graduate level offerings. Check out the Fall courses below to build a challenging and exciting schedule.

**ME 520 Advanced Biomechanics**
Instructor: Tyler Brown
Mechanical principles and analytical methods used in traditional and contemporary biomechanics. Topics include functional anatomy, joint kinematics, inverse dynamics, mechanical properties of biological materials, and modeling of the musculoskeletal system. May be taken for KINES or ME credit, but not both. PREREQ: ENGR 220 or PERM/INST.

**ME 538 Convective Heat Transfer**
Instructor: James Ferguson
Treatment of energy and linear momentum conservation equations; laminar and turbulent forced convective HT in internal and external flow fields; free convection. PREREQ: ME 320.

**ME 566 Dynamic Modeling and Control of Engineering Systems**
Instructor: John Gardner
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: Grad student standing or permission of instructor. Online

**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 574 Advanced Vibrations**
Instructor: Joe Guarino
Theory and applications of vibrating continuous and discrete multi degree of freedom systems, modal analysis, acquisition and synthesis of data. Experimental and analytical characterization of the vibration response of linear and nonlinear systems, including Transfer and Frequency Response Functions, MIMO and SIMO, and mathematical modeling. PREREQ: ME 472 or 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 Experimental Methods in Fluid Dynamics**
Instructor: Ralph Budwig
The objective of the course is to develop the knowledge and skills to be able to design and perform fluid dynamics experiments (and experiments in related areas) and to interpret and report the results. Learn the words, the concepts, and experimental skills in areas including dimensional analysis and scaling of experiments, flow visualization, velocity and flow rate measurements, turbulence measurements, and sediment sizing and transport measurements. Additional projects/assignments required for graduate credit. One 1-1/2 hour lecture and one 3-hour lab each week. Recommended preparation: Technical Writing (ENGL 202) and Fluid Mechanics (ME 330) Offered through University of Idaho.

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.