MECHANICAL ENGINEERING (ME)

ME 2891 Statics (4 Credits)
A study of vector forces and their analysis, equilibrium of particles and of rigid bodies, structural analysis and internal forces, distributed forces, center of gravity and centroids. Typically offered: Autumn.
Course Schedule (https://catalog.spu.edu/course-search/?details&code=ME%202891)

ME 3300 Properties of Materials (3 Credits)
Studies the fundamental principles of structure and properties of materials that are utilized in the practice of engineering. Properties of materials are related to atomic, molecular, and crystalline structure. Discusses metals, ceramics, multiphase systems, and polymeric materials. Covers relationships between structure and electrical, mechanical, thermal, chemical properties and the decisions made for their use in engineered systems or material selection in engineering design. Typically offered: Winter.
Course Schedule (https://catalog.spu.edu/course-search/?details&code=ME%203300)

ME 3310 Mechanics of Materials (4 Credits)
This course builds on and integrates with concepts introduced in prior coursework in static systems. Studies stress and strain, properties of materials, axial load, torsion, bending, shear, strain and stress transformations, deflections of beams and shafts. Typically offered: Winter.
Course Schedule (https://catalog.spu.edu/course-search/?details&code=ME%203310)

ME 3400 Dynamics (5 Credits)
This course builds on concepts introduced in prior coursework in static systems and engineering mechanics. It includes solving problems of kinematics and kinetics for particles and rigid bodies using energy, momentum, and angular momentum conservation laws. Typically offered: Spring.
Course Schedule (https://catalog.spu.edu/course-search/?details&code=ME%203400)

ME 3430 System Dynamics (5 Credits)
Studies mathematical modeling, analysis, and design of physical dynamic systems involving energy storage and transfer by lumped-parameter linear elements. Time -domain and frequency domain treatments are explored using both analytical methods and numerical simulation.
Course Schedule (https://catalog.spu.edu/course-search/?details&code=ME%203430)

ME 3500 Thermal Science I: Thermodynamics (5 Credits)
A first course for engineering and physics students in the thermal sciences, designed to introduce students to the subject of thermodynamics. Topics include properties, open and closed systems, and the 1st and 2nd laws of thermodynamics. Applications include power, refrigeration, and heat pump systems. Typically offered: Autumn.
Course Schedule (https://catalog.spu.edu/course-search/?details&code=ME%203500)

ME 3501 Thermal Science II: Fluid Mechanics (5 Credits)
A continuing course for engineering and physics students in the thermal sciences. This course will focus on fluid mechanics. Topics include kinematics of fluid motion, fluid statics, dimensional analysis, integral analysis of fluid dynamics, and internal and external flows. Typically offered: Winter.
Course Schedule (https://catalog.spu.edu/course-search/?details&code=ME%203501)

ME 3502 Thermal Science III: Heat Transfer (5 Credits)
A continuing course for engineering and physics students in the thermal sciences. This course will focus on heat transfer by conduction, convection, and radiation. Typically offered: Spring.
Course Schedule (https://catalog.spu.edu/course-search/?details&code=ME%203502)

ME 4410 Mechanical Design (4 Credits)
An integrated design and analysis course utilizing applications of mechanics and thermal-fluids systems applied to the design and test of complex mechanical and electro-mechanical systems. Typically offered: Autumn.
Course Schedule (https://catalog.spu.edu/course-search/?details&code=ME%204410)

ME 4910 WA State FE Preparation for Mechanical Engineers (1 Credit)
Seminar review of principles and problem solving in math, ethics, engineering economics,and mechanical engineering technical topics to assist students in preparation for the Mechanical Engineering FE exam.
Course Schedule (https://catalog.spu.edu/course-search/?details&code=ME%204910)