MECHANICAL ENGINEERING TECHNOLOGY

Programs

- Mechanical Engineering Technology Associate in Applied Science (https://catalog.gvltec.edu/school-engineering-technology-professional-studies/mechanical-engineering-technology/mechanical-engineering-technology-aas/)

Courses

MET 211 Strength of Materials (2-6-4)
Offered Fall and Spring Semesters
Prerequisites: EGR 194 or EGR 260
Co-requisites (required): MAT 120 or MAT 140
This course covers externally applied forces and internally induced stresses in structural members and machine components. Materials selection and sizing components to meet requirements are included. Stress/strain relationships for parts under various loading conditions including combined stresses (Mohr's) with application to beams, columns and mechanical components are covered.

MET 213 Dynamics (2-3-3)
Offered Spring and Summer Semesters
Pre- or Co-requisites (required): EGR 194 or EGR 260 and EGR 210 or EGR 275 (prerequisite preferred)
This course includes the motion of rigid bodies and the forces that produce or change their motion. Rectilinear and rotational motion is covered as well as the concepts of work, power, energy, impulse, momentum and impact in relation to machine and mechanisms.

MET 214 Fluid Mechanics (2-3-3)
Offered Fall and Spring Semesters
Prerequisite: MAT 110
This course is a study of the physical properties of fluids and includes hydrostatics, buoyancy, flow of incompressible fluids, orifices, venturis and nozzles.

MET 226 Applied Heat Principles (3-3-4)
Offered Fall and Spring Semesters
Prerequisite: MAT 110
This course covers energy transfer principles involved in heating, cooling and power of thermal efficiency through the study of various thermodynamic cycles. Heat transfer through conduction, convection and radiation as well as heating and cooling cycles of steam and HVAC equipment are analyzed.

MET 231 Machine Design (2-6-4)
Offered Fall and Spring Semesters
Prerequisite: MET 211 or EGR 204
This course covers the design and applications of machine elements such as shafts, couplings, springs, brakes, clutches, gears and bearings. It also covers the applications of principles of statics, strength of materials, engineering drawing and dynamics to the design of simple machines. Conditions of static and fatigue loading while using various theories of safety factor determination are utilized in this course.

MET 235 Manufacturing Engineering Principles (1-3-2)
Offered Fall and Summer Semesters
Pre- or Co-requisites (required): EGR 210 or EGR 275 and MAT 120 or MAT 140 (prerequisite preferred)
This course covers an analysis of the management of manufacturing using the tools of work cell design, standards, process planning, inventory control and quality control. It includes analytical decision making and planning techniques. Robot safety and use is integrated into this course.