GENENG 1000 1 credit
Engineering Success Skills
An introductory course which will provide the opportunity for new engineering students to develop and improve their problem-solving ability, computer literacy, and study skills to maximize their chances for success in their college careers and prepare them for subsequent engineering courses. Topics include: making the transition from high school to college; time management; exploration of the engineering disciplines, learning styles, introduction to computer skills including spreadsheets, word processing and presentation software; engineering ethics, and introduction to engineering methods. Eight week course which meets two hours per week.

Components:
Class
GE: Entry Level requirement
Prereqs/Coreqs: C: MATH 15

GENENG 1030 1 credit
Introduction to Engineering Projects
An introductory course which will provide the opportunity for new engineering students to explore the UWP engineering programs through seven hands-on engineering modules, representing the seven engineering disciplines at UW-Platteville. Emphasis will be placed on written and oral communication skills, data collection and analysis, computer application skills and group work. Semester course which meets two hours per week.

Components:
Class
Prereqs/Coreqs: P: GENENG 1000; C: Math 1530 or higher or consent of department chair

GENENG 1320 2 credits
Engineering Computer Graphics
Problems relative to points, lines and planes in space; Cartesian coordinates; projection-plane theory; orthographic pictorials; dimensioning; auxiliary views; sections; extensive use of computer-aided design (AutoCAD and solid modeling) including 2D and 3D drawing, editing and enhancing; emphasis on development of the ability to communicate graphically; special emphasis on engineering and computer graphics applications. Two 112 minute classes per week.

Components:
Laboratory
Prereqs/Coreqs: P or C: GENENG 1000 and MATH 2530

GENENG 2030 3 credits
Engineering Modeling and Design
An introduction to design tools and practices associated with the design and development of engineering systems. Students will gain experience with solid modeling tools, including part modeling, assembly modeling and the reading and creation of layout drawings. The project portion of the course will focus on "reverse engineering". Reverse engineering will be used to examine the design of existing systems (objects such as: a fishing reel, a small refrigerator, a hair dryer, and similar), their assembly, and the engineering principles that form the foundation for the product. Students will model these systems and suggest possible design changes that might lead to improvements in form, function, and/or assembly.

Components:
Laboratory, Class
Prereqs/Coreqs: C: MATH 2640

GENENG 2130 3 credits
Engineering Mechanics-Statics
Composition, resolution and equilibrium of forces and force systems; analysis of structures; friction; centroids; moment of inertia.

Components:
Class
Prereqs/Coreqs: C: MATH 2740 and (C: GENENG 1030 or P: MSNT 1010 and consent of instructor).

GENENG 2220 2 credits
Engineering Mechanics-Dynamics
Kinematics and kinetics of particles and rigid bodies in translation; rotation and general plane motion; Newton’s law, work-energy methods; linear and angular momentum.

Components:
Class
Prereqs/Coreqs: P: GENENG 2130 with a grade of “C-” or better

GENENG 2230 3 credits
Engineering Mechanics-Dynamics
Kinematics and kinetics of particles and rigid bodies in translation; rotation and general plane motion; Newton’s law, work-energy and impulse methods; linear and angular momentum; impacts; systems of particles and introduction to 3-D kinetics.

Components:
Class
Prereqs/Coreqs: P: GENENG 2130 with a grade of “C-” or better
GENENG 2340  4 credits
Mechanics of Materials
Simple stress and strain; design and investigation of joints, beams, torsion members and columns; evaluation of shear, moment, slope and deflection of beams and combined stresses.

Components: Laboratory, Class
Prereqs/Coreqs: P: GENENG 2130 with a grade of “C-” or better

GENENG 2630  3 credits
Basic Thermoscience for Engineers
Thermodynamic properties; first and second laws of thermodynamics; ideal gas equation of state; steam properties; properties of incompressible substances; refrigerants; carnot cycle; rankine cycle; otto and diesel cycles; refrigeration; conduction and convection heat transfer. Not open to Mechanical Engineering majors.

Components: Class
Prereqs/Coreqs: P: MATH 2840 and PHYSICS 2530 or PHYSICS 2240

GENENG 2820  2 credits
Engineering Economy
Application of principles of economic analysis to engineering decision making; time value of money; uniform annual cost; present worth; rate of return; benefit-cost ratio; depreciation; income taxes; inflation.

Components: Class
Prereqs/Coreqs: P: GENENG 1030 and sophomore standing

GENENG 2930  3 credits
Applications of Electrical Engineering
Electric circuit analysis techniques; transients; AC analysis; power in AC circuits; transformers; and introduction to three-phase circuits.

Components: Laboratory, Class
Prereqs/Coreqs: P: PHYSICS 2640 or PHYSICS 2340; not open to Electrical Engineering majors

GENENG 3000  1–3 credits
Undergraduate Research in Engineering
Introduction to research methods in both interdisciplinary engineering as well as any engineering discipline, literature review, data analysis, and design. A student may register for one to three credits in a given semester.

Components: Research
Prereqs/Coreqs: C: MATH 2740