ENGINEERING (EG) (EG)

EG 101  Intro to Engineering & Design  2 cr
A course for first time engineering students that assists with maximizing
the student’s potential to achieve academic success and to adjust
responsibly to the individual and interpersonal challenges presented by
college life. Introduction to engineering fundamentals through reading,
homework assignments, laboratory investigations, guest lecturers and
group discussions on the engineering profession.
Prerequisite: (MA 113 (may be taken concurrently) Minimum Grade of D
or MA 172 Minimum Grade of D) or (MA 125 (may be taken concurrently)
Minimum Grade of C or MA 132 Minimum Grade of D)

EG 201  Intro to Engr & Prob Solving  2 cr
A course for first-time transfer students that helps maximize the
student’s potential to achieve academic success and to address the
transition from community college to four-year college. Introduction
to engineering fundamentals and problem solving techniques through
reading, homework assignments, laboratory investigations, guest
lecturers and group discussions on the engineering profession.
Prerequisite: MA 126 Minimum Grade of C

EG 210  Electrical Circuits  3 cr
Ohm’s and Kirchhoff’s laws. Network theorems-superposition, source
transformation, Thevenin’s and Norton’s Theorems. RLC circuits.
Sinusoids and phasors and their applications in RLC circuits. RMS values
of voltages and currents. Operational amplifiers. Average power and
power factor in AC circuits.
Prerequisite: MA 126 Minimum Grade of C

EG 231  Intro to Ethics and Economics  3 cr
Introduction to ethics and the use of codes of ethics in developing an
ethical profession. Application of engineering economic principles to
engineering problems.
Prerequisite: MA 126 Minimum Grade of C

EG 270  Engineering Thermodynamics  3 cr
First and second law of thermodynamics with applications.
Prerequisite: (MA 126 Minimum Grade of C and PH 201 Minimum Grade of C)

EG 272  Statics  3 cr
Use of vector algebra to analyze two and three dimensional forces,
moments, and couples. Use of free body diagrams to analyze rigid bodies,
beams, trusses, and frames in equilibrium. Calculation of the area
and mass moments of inertia, and friction forces.
Prerequisite: (MA 126 Minimum Grade of C and MA 126 Minimum Grade of C)

EG 284  Dynamics  3 cr
Kinematics and kinetics of particles and rigid bodies. Work/energy and
momentum methods.
Prerequisite: EG 283 Minimum Grade of C and MA 126 Minimum Grade of C

EG 290  Sp Top -  1-5 cr
Subjects of special interest in engineering. Requires permission of
instructor.

EG 315  Mechanics of Materials  3 cr
An introduction to the mechanics of deformable bodies. Analysis of
stress and strain. Emphasis on axial, torsional and bending loads.
Deflections, deformations, and column stability.
Prerequisite: EG 283 Minimum Grade of C and (MA 227 Minimum Grade of C and PH 201 Minimum Grade of C)

EG 360  Fluid Mechanics  3 cr
Study of the properties of fluids including fluid statics, kinematics;
integral and differential equations of mass, momentum and energy
conservation principles; dimensional analysis; flow in ducts; boundary
layer flows; and compressible flow.
Prerequisite: MA 238 Minimum Grade of D and EG 284 Minimum Grade of C

EG 390  Special Topics-  1-3 cr
This course covers topics of current interest in Engineering.

EG 440  Intro to Systems Engineering  3 cr
This course will explore the history of systems engineering, the problems
that contributed to the need for systems thinking, and the systems
engineering lifecycle as defined by ISO/IEC/IEEE 15288 Systems and
Software Engineering – System Life Cycle Processes. This course will
include a significant reading list and a systems engineering exercise that
will run for the duration of the course.

EG 490  Special Topics  1-3 cr
This course covers topics of current interest in Engineering.

EG 494  DIS In Engineering  1-3 cr
Directed study, under the guidance of a faculty advisor of a topic from the
field of Engineering not offered in a regularly scheduled course.

EG 590  Sp Top -  1-3 cr
Subjects of special interest in engineering for engineering graduate
students. Requires permission of instructor.

EG 620  Biomedical Engineering I  4 cr
Fundamental concepts of medical instrumentation, biomedical imaging
and biological systems modeling as used in biomedical engineering.
Course is cross-listed with IDL 620.
Cross-Listed: IDL 620

EG 621  Biomedical Engineering II  4 cr
Fundamental concepts of transport phenomena, cellular and tissue
mechanics, and materials as used in biomedical engineering. Course is
cross-listed with IDL 621.
Cross-Listed: IDL 621