ENGINEERING SCIENCE  
(ENSC)

ENSC 2113 Statics  
**Prerequisites:** MATH 2144 and either PHYS 1114 or PHYS 2014 with grade of "C" or better.  
**Description:** Resultants of force systems, static equilibrium of rigid bodies, statics of structures, and fluid statics. Shear and moment diagrams.  
**Credit hours:** 3  
**Contact hours:** Lecture: 2 Other: 1  
**Levels:** Undergraduate  
**Schedule types:** Discussion, Combined lecture & discussion, Lecture  
**Department/School:** Dean of Engineering

ENSC 2123 Elementary Dynamics  
**Prerequisites:** ENSC 2113 with a grade of "C" or better.  
**Description:** Kinematics and kinetics of particles, systems of particles, and rigid bodies from a Newtonian viewpoint using vector algebra and calculus. Work-energy and impulse-momentum principles. Planar and three-dimensional kinetics and kinematics of rigid bodies.  
**Credit hours:** 3  
**Contact hours:** Lecture: 2 Other: 1  
**Levels:** Undergraduate  
**Schedule types:** Discussion, Combined lecture & discussion, Lecture  
**Department/School:** Dean of Engineering

ENSC 2143 Strength of Materials  
**Prerequisites:** ENSC 2113 with grade of "C" or better.  
**Description:** Bending moments, deformation and displacement in elastic and plastic deformable bodies. Axial, torsional and shear loads. Buckling stress transformations and combined loads.  
**Credit hours:** 3  
**Contact hours:** Lecture: 2 Other: 1  
**Levels:** Undergraduate  
**Schedule types:** Discussion, Combined lecture & discussion, Lecture  
**Department/School:** Dean of Engineering

ENSC 2213 Thermodynamics  
**Prerequisites:** A grade of "C" or better in CHEM 1314, CHEM 1414 or CHEM 1515, MATH 2144, PHYS 2014.  
**Description:** Properties of substances and principles governing changes in form of energy. First and second laws.  
**Credit hours:** 3  
**Contact hours:** Lecture: 2 Other: 1  
**Levels:** Undergraduate  
**Schedule types:** Discussion, Combined lecture & discussion, Lecture  
**Department/School:** Dean of Engineering

ENSC 2613 Introduction to Electrical Science  
**Prerequisites:** MATH 2153 and PHYS 2114.  
**Description:** Elements of electrical engineering; AC and DC circuits, mesh and node formulation of network equations, steady-state response to sinusoids, energy, power and power factor.  
**Credit hours:** 3  
**Contact hours:** Lecture: 3  
**Levels:** Undergraduate  
**Schedule types:** Lecture  
**Department/School:** Dean of Engineering

ENSC 3213 Computer Based Systems in Engineering  
**Prerequisites:** CS 1113 or ENGR 1412 and sophomore or higher standing.  
**Description:** A comprehensive introduction to technology and application of microprocessors, concepts of computer and computation, interfacing and communication, data acquisition and representation. Applications of general-purpose and embedded processors in various disciplines of engineering and engineering problem solving.  
**Credit hours:** 3  
**Contact hours:** Lecture: 2 Lab: 2  
**Levels:** Undergraduate  
**Schedule types:** Lab, Lecture, Combined lecture and lab  
**Department/School:** Dean of Engineering

ENSC 3233 Fluid Mechanics  
**Prerequisites:** ENSC 2113 and MATH 2153 with a grade of "C" or better.  
**Description:** The study of fluid properties, statics, conservation equations, dimensional analysis and similitude, viscous flow in ducts, inviscid flow, boundary layer theory, open channel flow, turbinachinery and fluid measurement techniques.  
**Credit hours:** 3  
**Contact hours:** Lecture: 2 Other: 1  
**Levels:** Undergraduate  
**Schedule types:** Discussion, Combined lecture & discussion, Lecture  
**Department/School:** Dean of Engineering

ENSC 3313 Materials Science  
**Prerequisites:** CHEM 1314 or CHEM 1414 or CHEM 1515.  
**Description:** Introductory level. Relationship between structure and properties of materials and engineering applications. Atomic, microscopic and macroscopic properties.  
**Credit hours:** 3  
**Contact hours:** Lecture: 3  
**Levels:** Undergraduate  
**Schedule types:** Lecture  
**Department/School:** Dean of Engineering