First Year Engineering Education Courses

1024: ENGINEERING EXPLORATION
Introduction to the profession and the College of Engineering. Foundation material in: problem definition, solution and presentation; design, including hands-on realization working in teams; modeling and visual representation of abstract and physical objects; scientific computation; algorithm development, computer implementation and application; documentation; ethics; and professionalism. Major topics include graphing, sketching, ethics, sustainability. Software used: LabView (2H,2C)

1104: EXPLORATION OF THE DIGITAL FUTURE
Builds on the principles and practice of engineering design introduced in 1024 and introduces various discipline-specific engineering tools. Topics covered include: the engineering design cycle; written and oral communications; signal and information coding and representation; introduction to networking. Required for students planning to major in Computer Engineering or Electrical Engineering; appropriate for students planning to major in Computer Science. Software used: MATLAB (2H,2C)

1114: EXPLORATION OF ENGINEERING DESIGN
Builds on principles and practice of engineering design introduced in 1024 and introduces various discipline-specific engineering tools. Topics covered include: engineering design cycle; basic project management; written and oral communications; computer assisted design and analysis; the graphics language; working in a team environment. Requires successful completion of a team-based design project. Required for students planning to major in Aerospace Engineering, Mechanical Engineering, and Ocean Engineering; recommended for students planning to major in Biological Systems Engineering, Chemical Engineering, Civil and Environmental Engineering, Engineering Science and Mechanics, Industrial and Systems Engineering, Materials Science and Engineering, and Mining and Minerals Engineering. Software used: Inventor, Matlab. (2H,2C)