Course Descriptions for all COMPUTER AIDED DESIGN courses
(in order by semester)

CISC 101 Introduction to Computers (Cr3) (3:0)
This course introduces computer concepts including hardware and software, an overview of application
software, networking and the Internet, and current issues with respect to computers and society.
Hands-on instruction in the productivity tools of word-processing, spreadsheets and presentation
software.

ENGG 100 Engineering Graphics (Cr3) (2:2)
Training and experience in drafting procedure, practice and principles; basic skills and techniques of
drafting including freehand orthographic and pictorial sketching; use of drafting equipment; essentials
of lines, lettering, multiview projections, section views, dimensioning, tolerancing and notation in
execution of detail and assembly drawings; introduction to computer-aided design basics for non-CAD
majors.

ENGG 115 Computer Aided Design I (Cr3) (2:2)
Basic elements of computer-aided drafting using AutoCAD; working knowledge of system and screen
controls, file management, creating entities, editing techniques, creating two-dimensional drawings, and
printing/plotting methods. Pre- or coreq.- ENGG 100. Offered fall semester only.

ENGL 101 English I (Cr3) (3:0)
A writing-intensive course giving close attention to the process of writing through networked workshops
and conferences involved in preparation and revision of drafts. The course develops skills in logical and
focused writing, through development of a main point by means of supporting ideas and evidence. In
addition, students learn to integrate information from secondary sources through the use of summary,
paraphrase, and direct quotation in various forms of thesis-based writing. Prereq. - Competence in
reading and writing as determined by English Department through testing and/or course work.
Approved for the Honors Program.

MATH 140 College Algebra (Cr3) (3:0)
Concepts of algebra, graphs and functions, exponential and log functions, systems of inequalities and
equalities, complex numbers. Prereq. - Appropriate competence as outlined in the Mathematics
Placement policy or MATH026 or 028 either with a C or better.

ENGG 125 Manufacturing Processes (Cr3) (3:1)
Fundamentals of manufacturing; survey of engineering materials, including the properties of each
material and phase diagrams; processes for modifying materials; product design and material selection,
relationship between conceptual, functional and process design; manufacturing processes; fundamental
workings of the process, its capabilities, typical applications, advantages and limitations.

ENGG 261 Computer Aided Design II (Cr3) (2:2)
Advanced computer-aided drawing and editing commands as applied to mechanical, architectural and
civil engineering work; geometric dimensioning and tolerancing, symbol libraries, attributes, script, DXF
and basic isometric and 3-D wireframe drawing commands. Prereq.- ENGG 115. Offered spring semester
only.
MATH 145 Trigonometry (Cr3) (3:0)
Angles, trig functions, trig identities, solution of triangles, complex numbers. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH 140 with a C or better.

ENGG 205 Parametric Modeling (Cr3) (2:2)
Create, edit, manipulate and plot part and assembly models and drawings using parametric feature-based 3-D CAD modeling software such as Autodesk Inventor or SolidWorks. Using digital prototype models of industrial, mechanical, consumer product and plant design applications, perform rendering and analysis of design, animation and dynamic simulation of parts and assemblies; interface with Rapid Prototyping (RPP) and Computer-Integrated Manufacturing (CIM). Pre- or coreq. - ENGG261. Offered spring semester only.

CMTH 102 Speech Communication (Cr3) (3:0)
Basic principles of communication theory and practice, including speech preparation and delivery, and the effective use of critical thinking and listening in relation to intrapersonal, interpersonal, intercultural, and group communication.

ENGG 220 Design Project (Cr3) (2:2)
Students work individually or in teams to design a product that will utilize manufactured parts or components. Based on design parameters, students will research, develop, design, analyze and document their project while improving their technical writing, reporting, record keeping and drawing presentation skills. Pre- or coreq.- ENGG 205 and ENGL 151. Offered fall semester only.

ENGG 262 Computer Aided Design III (Cr3) (2:2)
Working knowledge in creating 3-D drawings, surface and solid modeling, and visualization using AutoCAD; menu and toolbar customization and introduction to AutoLISP programming language; basic parametric modeling techniques. Prereq.- ENGG 261. Offered fall semester only.

PHYS 101 Physics I (Cr4) (3:2)
This is an introductory, algebra-based, problem-solving physics course with a lab component. Topics covered are one and two-dimensional motion, forces, Newton's laws, work, power, energy, momentum, rotation, equilibrium, fluids, temperature, and heat. Prereq. - MATH140 with C or better. Core: SCI.

ENGG 230 Team Project (Cr3) (2:2)
CAD students participate in teams to design and prototype a product under specified guidelines; emphasis on technical writing and reporting, effective teamwork, and prototyping. Only one of the following may be applied to graduation: ELEC 230 or ENGG 230. Pre- or coreq.- ENGG 205. Offered spring semester only.

PHYS 151 Physics II (Cr4) (3:2)
This is the follow-on physics course to PHYS 101 (Physics I), and is an introductory, algebra-based, problem-solving course with a lab component. Topics covered are vibrations and waves, sound, electric charge and electric fields, circuits, magnetism, electromagnetic waves, light, and optics. Prereq. - PHYS 101 with C or better. Core: SCI.