ENGINEERING GRAPHICS (EG)

EG 225  
Engineering Graphics for Non-Engineers  
Designed for students in business, liberal arts and non-technical programs. Basic drafting techniques and applications, lettering, geometric constructions, charts and graphs, technical sketching, multiview projection, pictorial drawings, dimensioning, blueprint reading and working drawings. Introduction to computer graphics. Credit for this course is not applicable to an engineering degree.  
Lecture: 2 Lab: 1 Credits: 3

EG 305  
Advanced Engineering Graphics and Design  
Advanced study of auxiliary views and sectioning, gears and cams, threads and fasteners, working drawings, assembly drawings, electronic drafting, ANSI drafting standards, and computer-aided drawing and design. Engineering design project.  
Prerequisite(s): CAE 101 or MMAE 232  
Lecture: 2 Lab: 1 Credits: 3

EG 306  
Engineering Descriptive Geometry  
Graphic solutions of problems involving point, line, and plane relationships by auxiliary views and revolutions. Developments and intersections of surfaces. Parallelism and perpendicularity, vectors, mining and civil engineering applications. Shades and shadows, conics, map projection and spherical triangles. Emphasis on applications which promote visualization and introduce new engineering experiences. Applications of computers to problem solving.  
Prerequisite(s): CAE 101 or MMAE 232  
Lecture: 2 Lab: 2 Credits: 3

EG 325  
Advanced Engineering Graphics for Non-Engineers  
Threads and fasteners, sectioning and auxiliary views, limit dimensioning, detail and assembly drawings, data representation, principles of descriptive geometry, manufacturing processes and computer graphics/CAD. Credit for this course is not applicable to an engineering degree.  
Prerequisite(s): EG 225  
Lecture: 2 Lab: 1 Credits: 3

EG 329  
Graphic Representation for Non-Engineers  
Basic techniques of graphics applied to communications and report writing. Use of computer graphics to generate charts and graphs including line charts, two- and three-dimensional bar charts, and pie charts. Integration of graphical presentations into technical and business reports. Credit for this course is not applicable to an engineering degree.  
Prerequisite(s): EG 225  
Lecture: 3 Lab: 0 Credits: 3

EG 405  
Mechanical Design Graphics  
Basic concepts of mechanical design and analysis. Advanced design layouts, details, assemblies, tolerance systems, surface finish control, materials, processes, ANSI drafting standards, engineering design processes, systems and procedures, application of computers to design, and CAD/CAM. Requires junior standing.  
Prerequisite(s): EG 305  
Lecture: 2 Lab: 2 Credits: 3

EG 406  
Technical and Pictorial Illustration  
Prerequisite(s): CAE 101 or MMAE 232  
Lecture: 2 Lab: 2 Credits: 3

EG 409  
Computer-Generated Pictorial Projections  
Study of computer-generated representations of three-dimensional objects. Projections include multiview, perspective, axonometric (isometric, dimetric, and trimetric), and oblique.  
Prerequisite(s): EG 406  
Lecture: 2 Lab: 2 Credits: 3

EG 419  
Computer Graphics in Engineering  
Techniques of PC-based (AutoCAD) computer-aided drawing and design. Study of computer graphic hardware and software systems through demonstrations and use. Both 2D and 3D representation of components and assemblies from various engineering disciplines. Requires junior standing.  
Prerequisite(s): CAE 101 or MMAE 232  
Lecture: 2 Lab: 2 Credits: 3

EG 425  
Computer Graphics for Non-Engineers  
Principles and applications of computer graphics in business and nontechnical fields. Study of computer graphics hardware and software systems. Use of computer in producing charts, graphs, and technical drawings. Use of PC-CAD in problem solving and design. Credit for this course is not applicable to an engineering degree. Requires junior standing.  
Prerequisite(s): EG 325  
Lecture: 2 Lab: 1 Credits: 3
EG 429  
Computer Graphics for Desktop Publishing  
Integration of computer graphic-generated images into technical and business reports produced with popular desktop publishing software. Emphasis on creation and selection of graphical presentations for optimum readability. Scanning and retouching techniques for two- and three-dimensional presentations. Introduction to multi-media and slide presentations. Credit for this course is not applicable to an engineering degree. Junior standing required.  
Prerequisite(s): EG 329  
Lecture: 2 Lab: 2 Credits: 3

EG 430  
Introduction to Building Information Modeling  
Fundamentals and practical use of information technologies in design; basic concepts of building information modeling (BIM); review of software and technology available for BIM; practical use of BIM in design for creating a site, viewing a model, starting a project, working in the AutoDesk "Revit" Environment, adding basic building elements to a project, conceptual energy analysis, designing a preliminary layout, and presenting a project.  
Lecture: 3 Lab: 0 Credits: 3

EG 497  
Special Problems  
Special problems. Requires junior standing.  
Credit: Variable