DESIGN AND DEVELOPMENT (ETDD)

ETDD 1361. Engineering Graphics. 3 Hours. [TCCN: ENGR 1304]
This is an introductory engineering drawing course. Topics covered may include orthographic projection, isometric drawing, geometric construction, sectioning, and dimensioning using drafting equipment, freehand sketching, and two dimensional renderings with CAD software. Course Equivalents: ITEC 1361 .

ETDD 1390. Introduction to Computer Aided Drafting. 3 Hours. [TCCN: ENGR 1304]
This course is intended to provide the student with an understanding of Computer-Aided Drafting Principles. Students will utilize the software command structure of a CAD program to complete a number of typical and practical application exercises. Course Equivalents: ITEC 1390 .

ETDD 2363. Architectural Design. 3 Hours. [TCCN: ARCH 2603]
This course consists of the development of a set of plans and specifications for a small residence. Course Equivalents: ITEC 2363, ETDD 2363
Prerequisite: ETDD 1390 or ETDD 1361 or ETCM 1363 or FACS 1360 or FACS 2364.

ETDD 2396. Special Topic. 3 Hours.
This course of faculty-led study is designed to provide exposure of undergraduate students to new engineering design development topics and concepts in a course setting. This course is designed to be a multi-topic course. The student can take the course under various special topics being offered.
Prerequisite: ETEC 1010 and ETDD 1361.

ETDD 3310. Product Design & Development. 3 Hours.
This course explores the processes by which products are brought to the market place. Processes are examined with special emphasis placed on manufacturing, prototyping, patent and trademark procedures, industrial design, problem solving, and decision-making. In addition, creating and working in cross-functional teams to produce products for consumer use is addressed. Course Equivalents: ITEC 3310
Prerequisite: Sophomore standing, ETDD 1390 or ETDD 1361.

ETDD 3366. Intro to Virtual and Augmented Reality. 3 Hours.
Students learn and apply the foundational skill set for Virtual Reality (VR) and Augmented Reality (AR) development and design. Topics include 3D modeling, C# Scripting, and publication for Android or iOS mobile devices.

ETDD 3379. Industrial Design & Drafting. 3 Hours.
This course includes the illustration and preparation of drawings and the related symbolism used in electrical and fluid fields. Related and required piping and fitting fundamentals are also covered. Course Equivalents: ITEC 3379
Prerequisite: ETDD 1390 or ETDD 1361 and Sophomore standing.

ETDD 4096. Directed Study. 1-6 Hours.
Arranged professional and developmental learning experiences incorporating a practical application of design and development skills and practices. To include internships, individual research and industry studies. Variable Credit (1-6).
Prerequisite: Sophomore standing.

ETDD 4339. Advanced Computer-Aided Drafting and Modeling. 3 Hours.
This is a computer applications course for design and drafting and introduces students to the techniques used to produce technical models/drawings. Students will learn drafting practices and how to apply them using computer-aided software. Prior knowledge of drafting software and/or prior experience of working with computers is advantageous, but not required/expected. Students will produce technical drawings using various computer design and drafting practices. Concepts of 2D drawings will be covered along with an introduction to three dimensional parametric modeling.
The intent is to develop fundamental knowledge and skills that are conceptually applicable to any computer-aided design (CAD) system. Course Equivalents: ITEC 4339
Prerequisite: ETDD 1361 and Junior standing.

ETDD 4369. Special Topic. 3 Hours.
This course of faculty-led study is designed to provide exposure of undergraduate students to new engineering design development topics and concepts in a course setting. This course is designed to be a multi-topic course. The student can take the course under various special topics being offered.
Prerequisite: ETEC 1010, ETDD 1361, and Junior Standing.

ETDD 4380. Material Hand & Plant Layout. 3 Hours.
This course is the study of the basic requirements needed to develop the most efficient layouts of equipment and of operating and service facilities whether in manufacturing plants, warehouses, or other industrial or business applications. Special emphasis is on the necessary coordination between plant layout, materials handling, work simplification and production planning, and operation control. Junior standing. Course Equivalents: ITEC 4380
Prerequisite: ETDD 1361.

ETDD 4388. 3-Dimensional Parametric Design. 3 Hours.
This is a computer applications course for parametric design and drafting, in which the computer is used to produce parametric technical models/drawings. Students will learn drafting practices and how to apply them using computer aided software. Students will further be able to produce technical drawings using 3D CAD packages. Concepts of creating 2D drawings will be covered along with introduction to 3D parametric modeling. The course will enable the student to use Autodesk Inventor in advanced parametric design/drafting and other courses. Course Equivalents: ITEC 4388
Prerequisite: ETDD 1390 or ETDD 1361.