REVISED: Fall 2014

SYLLABUS

DIVISION: Business and Engineering Technology

CURRICULA IN WHICH COURSE IS TAUGHT: Drafting and Design

COURSE NUMBER AND TITLE: CAD 232 Computer Aided Drafting and Design II

CREDIT HOURS: 2 **HOURS/WEEK LECTURE:** 1 **HOURS/WEEK LAB:** 2

I. CATALOG DESCRIPTION: This course exposes student to 3-D and modeling while focusing on proficiency in production drawing using a CAD system.

II. RELATIONSHIP OF THE COURSE TO CURRICULA OBJECTIVES IN WHICH IT IS TAUGHT: Acquire an understanding of microcomputers. Gain a working knowledge of representative commercial software packages, including operating systems, Internet and e-mail, word processing, spreadsheets, databases, and presentations. CAD 233 will address the following program outcomes:

- Students will develop, design, create a drawing package, and fabricate a 3 dimensional working model of a functioning mechanical system.
- Students will design, draw, and fabricate a prototype of two design projects using a CAD program.

III. REQUIRED BACKGROUND:
CAD 233 dual credit class in high school or prior Solidworks experience.

IV. COURSE CONTENT:

- Basic functions
- Developing parametric models
- Creating working drawings
- Adding dimensions
- Inserting an isometric view onto the drawing template
- Printing
- Creating and assembling multiple parts
- Creating section views
- Creating realistic images
- Design projects
- Produce designs on rapid prototypers

V. THE FOLLOWING GENERAL EDUCATION OBJECTIVES WILL BE ADDRESSED IN THIS COURSE

___**x**___Communications	___**x**___Critical Thinking
_____Cultural & Social Understanding	___**x**___Information Literacy
_____Personal Development	___**x**___Quantitative Reasoning
_____Scientific Reasoning	

The syllabus and course outline are subject to change at the discretion of the instructor.

VI. LEARNER OUTCOMES

VII. EVALUATION

Learner outcome • Recognize the functions of the Solidworks workstation and understand their uses.	**Evaluation method** Creation of solid models and working drawings Blackboard Quizzes Online exam
Learner outcome • Demonstrate the ability to develop solid models and add features such as holes, pockets, bosses, etc.	**Evaluation method** Creation of solid models
Learner outcome • Develop orthographic projections from the parametric model.	**Evaluation method** Creation of working drawings
Learner outcome • Assemble parts to create a mechanical system.	**Evaluation method** Creation of assemblies
Learner outcome • Develop section and auxiliary view drawings from the parametric model.	**Evaluation method** Creation of working drawings
Learner outcome • Properly dimension orthographic projections and adjust dimension locations.	**Evaluation method** Creation of solid models and working drawings
Learner outcome • Properly save drawings in different formats	**Evaluation method** Creation of solid models and working drawings
Learner outcome • Design and graphically represent solutions to design problems. • Understand the importance of tolerances in the design process. • Create physical models on the rapid prototyper from parametric models. • Demonstrate skills in presentation methods such as printing, animations, and the creation of web pages	**Evaluation method** Creation of solid models and working drawings of design projects

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