

TCC - TECHNOLOGY DEPT. CORE

TCC 111 Technical Communications

This course presents instruction in microcomputer operations using integrated software packages. The principles of communication are stressed to provide students with the appropriate skills and knowledge to effectively manipulate and present information of a technical nature.

Upon successful completion of this course, students should be able to:
Demonstrate knowledge of and ability to use the current version of MS Office.

Effectively articulate technical procedures and other technical information.
Create, manage, store, and retrieve various forms of technical information using variety storage sources such as cloud based and web based systems.
Demonstrate strategies and methods for structuring an effective oral technical presentation.

Prepare written technical memos, reports and other professional documents.

College Academic Learning Goal Designation: Information Technology (TC)
 Prerequisite: Successful Placement Test Scores or (ENG 050 and REA 050) or ENG 099* or REA 075 (*may be taken concurrently).

3 Credits2 Weekly Lecture Hours

2 Weekly Lab Hours

TCC 112 CADD Graphics

This course provides students with the concepts and skills necessary to form the basis of object visualization and documentation inherent to the creation and conveying of technical designs and drawings. Appropriate drafting concepts and skills are developed through use of both free-hand sketching and computer-assisted drafting. Instruction in the use of CADD systems is integrated with graphic theory throughout the course. The course covers theoretical and applied drafting concepts appropriate for conveying graphical representation of objects and designs in a variety of technical environments including manufacturing and construction, as well as architectural, mechanical and civil engineering design.

Upon successful completion of this course, students should be able to:
Demonstrate the principles governing the setup and layout of technical drawings.

Discuss the geometric terms and principles used to define, design and represent drawing objects and entities.

Apply geometric construction techniques and principles of orthographic and pictorial projection for the representation of basic objects.

Perform basic annotation operations.

Apply acceptable forms of linework and text in both freehand sketching and CADD.

Demonstrate the use of basic office equipment, including computer information systems, for creating, managing, plotting and reproducing technical drawings.

Prerequisite: NONE New students should complete Placement Testing prior to registration. Visiting students may submit college transcript.

3 Credits2 Weekly Lecture Hours

2 Weekly Lab Hours

TCC 121 Project Management Processes

This course introduces students to the basic principles of project management. It is designed to provide students with foundations in initiating, planning, executing, monitoring, and controlling various projects. Students learn the fundamentals of project management knowledge areas such as, scope, time, cost, quality, human resources, communications, risk, procurement, and stakeholder management. Project Management can be applied to fields of construction, skilled trades, manufacturing, engineering, architecture, and others.

Upon successful completion of this course, students should be able to:
Develop a process based rationale for approaching project management.
Demonstrate ability to define project objectives and goals.

Demonstrate knowledge of the principles of scope management, risk management, cost planning and control, resource capacity analysis and allocation, time management and project scheduling, as well as change management.

Demonstrate the ability to create a Project Charter and Preliminary Planning Steps in the Initiation phase, as indicated in the Project Management Book of Knowledge or PMBOX published by the Project Management Institute (PMI).

Prepare a Project Task List that indicates task name, beginning and end dates of a task, and the length of time it will be required to completed the task.

Utilize Microsoft Project software to compile data, perform analyses, and generate project documentation.

Simulate project meetings with meeting minutes on individual student projects.

Verify the operation of current version of MS Project and insure the ability to integrate with other Microsoft and Industry acceptable standard.

Prerequisite: TCC 111.

3 Credits2 Weekly Lecture Hours

2 Weekly Lab Hours

TCC 122 2-D CADD

This is a course in computer-aided design and drafting using two-dimensional orthographic projection drawing techniques. Emphasis is placed on sketching/layout techniques for personal-computer-based CADD system operations. A series of increasingly difficult drafting assignments, ending with presentation-quality CADD drawings will be the major outcome of the course.

Upon successful completion of this course, students should be able to:
Use appropriate sketching techniques to lay out a drawing, establish drawing parameters, determine set-up criteria and represent the conceptual aspects of views for a two-dimensional drawing.

Use various input devices, display, drawing and plotter commands to satisfy the specific requirements for completing drawings for both the mechanical and construction industries.

Modify and correct redlined orthographic drawings, using Inquiry and Edit commands available in the CADD software.

Provide annotation, in the form of standardized dimensions, notes, bill of materials, tabulation tables and other text on drawings.

Develop, structure and manage related drawing files and previously prepared drawings to associate desired information and entities for the creation of a specific set of final drawings.

Apply basic through intermediate techniques of drawing composition and development for plotting scaled views in various viewport configurations.

Create two-dimensional engineering charts, graphs and tables.

Develop User Coordinate Systems to facilitate drafting of intermediate through advanced drawing views to include orthographic, axonometric and auxiliary planar views.

Prerequisite: TCC 112.

3 Credits2 Weekly Lecture Hours

2 Weekly Lab Hours

TCC 228 Design Project Methods

A capstone course applying the principles of design to the completion of a comprehensive individualized (or group) project in a student's selected field. Emphasis is placed on the decision-making roles and interactions of varied members of the professional design team.

Upon successful completion of this course, students should be able to:

Identify design-problem parameters by analyzing needs and setting objectives based on conditions of use and performance requirements.

Discuss the selection of materials for the design solution on the basis of properties, cost and manufacturing or construction processes.

Produce a preliminary design, sufficient to answer questions of economic feasibility, functional feasibility, and acceptability of character and appearance.

Plan and apply a service test to the preliminary design, making certain that the solution will meet end-use requirements.

Discuss specification development for documenting a design solution.

Create a comprehensive checklist of design procedures or methods.

Document the design, including detail and assembly drawings, supporting documents and schedules.

Use computer systems to create a design presentation package.

Prerequisites: TCC 122 and TME 210

3 Credits1 Weekly Lecture Hour

4 Weekly Lab Hours