

Syllabus

PLATO Course Drafting and Design, Semester B

Course Overview

This one-semester course is intended to help you familiarize yourself with various aspects of drafting and design. This course has fourteen lessons organized into three units. Each unit has a Unit Activity and each lesson contains one or more Lesson Activities.

This course covers design and development of a prototype, different types of drawings and views, advanced computer-aided design and drafting (CADD) operations, and key professional and personal skills that are helpful in having a successful career in the field of drafting and design.

You will submit the Unit Activity documents to your teacher, and you will grade your work on the Lesson Activities by comparing them with the given sample responses. The Unit Activities (submitted to the teacher) and the Lesson Activities (self-checked) are the major components of this course. There are other assessment components, namely the mastery test questions that feature along with the lesson; the pre- and post-test questions that come at the beginning and end of the unit, respectively; and an end-of-semester test. All of these tests are a combination of simple multiple-choice questions and technology-enhanced (TE) questions.

Course Goals

This course will help you meet the following goals:

- Demonstrate critical thinking and problem-solving skills.
- Understand the principles of ideation.
- Describe and apply the design process.
- Perform advanced CADD operations.
- Interpret detail and assembly drawings.
- Discuss the importance of pictorial views.
- Analyze different types of drawings.
- Explore various presentation methods.
- Demonstrate time, task, and resource management skills.
- Explain how to develop a prototype.

- Discuss the documentation involved in drafting and design.
- Explore various career opportunities and discuss industry certifications.
- Identify key professional and personal skills.
- Discuss safe and healthy work habits.

Prerequisite Skills

PLATO Course Drafting and Design, Semester B has the following prerequisites:

- basic math knowledge
- ability to visualize and apply creativity and innovation
- familiarity with the writing process and following guidelines
- basic computer skills
- ability to structure and process information

General Skills

To participate in this course, you should be able to do the following:

- Perform basic operations on a computer.
- Perform online research using various search engines and library databases.
- Communicate through email and participate in discussion boards.

For a complete list of general skills that are required for participation in online courses, refer to the Prerequisites section of the Plato Student Orientation document, found at the beginning of this course.

Credit Value

PLATO Course Drafting and Design, Semester B is a 0.5-credit course.

Course Materials

- notebook
- computer with Internet connection and speakers or headphones
- Microsoft Word or equivalent
- Microsoft Excel or equivalent
- Microsoft PowerPoint or equivalent
- free online CADD tools

Course Pacing Guide

This course description and pacing guide is intended to help you stay on schedule with your work. Note that your course instructor may modify the schedule to meet the specific needs of your class.

Unit 1: Designing and Drawing

Summary

In this unit, you will demonstrate critical thinking and problem-solving skills and apply the design process. You will learn advanced CADD commands. You will analyze detail and assembly drawings. You will discuss the importance of pictorial views and analyze different types of drawings.

Day	Activity/Objective	Type
1 day: 1	Syllabus and Plato Student Orientation <i>Review the Plato Student Orientation and Course Syllabus at the beginning of this course.</i>	Course Orientation
4 days: 2–5	Critical Thinking and Problem Solving <i>Demonstrate critical thinking and problem-solving skills by analyzing and resolving problems that arise in completing assigned tasks.</i>	Lesson
5 days: 6–10	Creating a Design <i>Analyze the principles of ideation and describe the key factors in creating a design.</i>	Lesson
5 days: 11–15	Advanced Computer-Aided Design and Drafting <i>Identify and perform advanced CADD operations.</i>	Lesson
5 days: 16–20	Detail and Assembly Drawings <i>Describe detail and assembly drawings.</i>	Lesson
5 days: 21–25	Pictorial Views <i>Explain the importance of pictorial views and discuss different types of drawings.</i>	Lesson
5 days: 26–30	Presentation Drawings <i>Discuss presentation drawings and methods.</i>	Lesson
1 day: 31	Space Jumble	Game
4 days: 32–35	Unit Activity/Threaded Discussion—Unit 1	Unit Activity
1 day: 36	Post-test—Unit 1	Assessment

Unit 2: Designing and Developing a Prototype

Summary

In this unit, you will demonstrate time, task, and resource management skills. You will explain how to develop a prototype using engineering design methodologies. You will describe the documentation involved in drafting and design.

Day	Activity/Objective	Type
5 days: 37–41	Time, Task, and Resource Management <i>Demonstrate time, task, and resource management skills by organizing and implementing a productive plan of work.</i>	Lesson
5 days: 42–46	Creating a Prototype <i>Explain the development of a prototype using the appropriate tools, materials, and techniques.</i>	Lesson
5 days: 47–51	Documentation <i>Describe the documentation process involved in drafting and design.</i>	Lesson
1 day: 52	Para Jumble	Game
4 days: 53–56	Unit Activity/Threaded Discussion—Unit 2	Unit Activity
1 day: 57	Post-test—Unit 2	Assessment

Unit 3: Workplace Skills

Summary

In this unit, you will explore various career opportunities and discuss industry certifications. You will identify key professional and personal skills essential in drafting and designing. You will discuss the importance of building strong relationships within a team. You will demonstrate diversity awareness and discuss strategies to resolve workplace conflicts. You will discuss safe working habits.

Day	Activity/Objective	Type
5 days: 58–62	Career Exploration <i>Discuss career opportunities and explore industry certifications.</i>	Lesson
5 days: 63–67	Professional and Personal skills <i>Discuss various professional and personal skills essential in drafting and designing.</i>	Lesson
5 days: 68–72	Teamwork <i>Demonstrate teamwork skills by contributing to the success of the team, assisting others, and requesting help when needed.</i>	Lesson
5 days: 73–77	Diversity Awareness <i>Demonstrate diversity awareness by working well with all customers and coworkers.</i>	Game
5 days: 78–82	Health and Safety <i>Demonstrate healthy behaviors and safety skills by following safety guidelines and managing personal health.</i>	Lesson
1 day: 83	Thwack-A-Mole	Game
4 days: 84–87	Unit Activity/Threaded Discussion—Unit 3	Unit Activity
1 day: 88	Post-test—Unit 3	Assessment.
1 day: 89	Semester Review	
1 day: 90	End-of-Semester Test	Assessment.