

Syllabus

PLATO Course Principles of Manufacturing, Semester B

Course Overview

PLATO Course Principles of Manufacturing, Semester B, is a one-semester course intended to help you familiarize yourself with quality control systems, importance of maintenance and marketing, and identify key professional and personal skills that are helpful in having a successful career in the field of manufacturing. This course has sixteen lessons organized into four units. Each unit has a Unit Activity, and each lesson contains one or more Lesson Activities.

You will submit the Unit Activity documents to your teacher, and you will grade your work in the Lesson Activities by comparing them with 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

By the end of this course, you will be able to do the following:

- Explain the concept of statistical process control and describe various techniques.
- Explain quality control and good manufacturing practices.
- Identify various manufacturing regulations and safety measures.
- Describe various maintenance procedures and safe material handling in a manufacturing unit.
- Identify the conflicting areas between marketing and manufacturing and explain how to achieve integration between the both to meet customer demands.
- Describe teamwork skills and identify leadership skills to successfully lead a team.
- Describe conflict-resolution skills and explain how to reduce workplace stress.
- Describe effective customer service skills.
- Describe various types of manufacturing companies and explain company formation and staff recruitment.

- Describe career opportunities and identify various employability characteristics and additional skills required in the workplace.
- Describe job acquisition and advancement skills.
- Explain the importance of positive work ethics and describe good work habits.
- Identify various aspects of personal integrity and describe laws and organizational policies that ensure safety at the workplace.
- Describe effective reading and writing skills.
- Describe effective speaking and listening skills.
- Explain the importance of diversity awareness and describe strategies to resolve workplace conflicts.

Prerequisite Skills

PLATO Course Principles of Manufacturing, 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 Principles of Manufacturing, 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

Course Pacing Guide

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

Course Components and Grading Rubric

The table gives a breakdown of the weight for each component in the course. Weight represents the percentage of the total score coming from each activity.

Course Components	Count	Weight
Pretest. <i>Pretests are optional assessments, typically designed for credit recovery use. If a student shows mastery of a lesson's objective, the student may be automatically exempted from that lesson in the upcoming unit. Typically, teachers do not choose to employ exemptive pretests for first-time credit courses. Pretests are not included as a component of the student's final grade.</i>	4	0%
Module. <i>Each module in this course contains an interactive tutorial and an associated mastery test. Tutorials may include one or more Lesson Activities that constitute tasks associated with the tutorial. The module score comes from a student's score on the mastery test.</i>	16	20%
Discussion. <i>Online discussions allow for higher-order thinking about terminal objectives. An online threaded discussion mirrors the educational experience of a classroom discussion. Teachers can initiate a discussion by asking a complex, open-ended question. Students can engage in the discussion by responding both to the question and to the thoughts of others. Each unit in a course has one predefined discussion topic; teachers may add more discussion topics.</i>	4	20%
Unit Activity. <i>Unit Activities are at the end a unit and constitute one or more small tasks. Their purpose is to deepen understanding of key unit concepts and tie them together. Each Unit Activity includes a simple rubric. The teacher versions include both a rubric and modeled sample answers. Unit Activities are teacher graded.</i>	4	20%
Posttest. <i>The posttest appears at the end of the unit and mirrors the pretest in structure, content, and complexity.</i>	4	20%
End of Semester Test. <i>The end of semester test (EOS) appears at the end of the course. Students are delivered a few items from every tutorial in the course in order to assess the major course objectives.</i>	1	20%
Total	33	100%

*Teachers may manually adjust these weights if desired, per district grading requirements.

Unit 1: Quality and Process Control

Summary

In this unit, you'll explain the concept of statistical process control and describe various techniques. You'll also explain quality control and good manufacturing practices. In addition, you'll identify various manufacturing regulations and safety measures.

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	Statistical Process Control <i>Explain the concept of statistical process control and describe various techniques.</i>	Lesson
4 days: 6–9	Quality Control and Good Manufacturing Practices <i>Explain quality control and good manufacturing practices.</i>	Lesson
4 days: 10–13	Manufacturing Regulations and Safety <i>Identify various manufacturing regulations and safety measures.</i>	Lesson
1 day: 14	Space Jumble	Game
4 days: 15–18	Unit Activity/Threaded Discussion—Unit 1	Activity
1 day: 19	Post-test—Unit 1	Assessment

Unit 2: Maintenance and Marketing

Summary

In this unit, you'll describe various maintenance procedures and safe material handling in a manufacturing unit. You'll also identify the conflicting areas between marketing and manufacturing and explain how to achieve integration between the both to meet customer demands. Then, you'll describe teamwork skills and identify leadership skills to successfully lead a team. Finally, you'll describe conflict-resolution skills, effective customer service skills, and explain how to reduce workplace stress.

Day	Activity/Objective	Type
4 days: 20–23	Maintenance <i>Describe various maintenance procedures and safe material handling in a manufacturing unit.</i>	Lesson
4 days: 24–27	Marketing-Manufacturing Interface <i>Identify the conflicting areas between marketing and manufacturing and explain how to achieve integration between the both to meet customer demands.</i>	Lesson
4 days: 28–31	Teamwork <i>Describe teamwork skills and identify leadership skills to successfully lead a team.</i>	Lesson
4 days: 32–35	Conflict Resolution <i>Describe conflict-resolution skills and explain how to reduce workplace stress.</i>	Lesson
4 days: 36–39	Customer Service <i>Describe effective customer service skills.</i>	Lesson
1 day: 40	Thwack-A-Mole	Game
4 days: 41–44	Unit Activity/Threaded Discussion—Unit 2	Activity
1 day: 45	Post-test—Unit 2	Assessment

Unit 3: Manufacturing Business and Employment

Summary

In this unit, you'll describe various types of manufacturing companies and explain company formation and staff recruitment. You'll also describe career opportunities and identify various employability characteristics and additional skills required in the workplace. Then, you'll describe job acquisition and advancement skills.

Day	Activity/Objective	Type
4 days: 46–49	Forming a Manufacturing Company <i>Describe various types of manufacturing companies and explain company formation and staff recruitment.</i>	Lesson

Day	Activity/Objective	Type
4 days: 50–53	Career Opportunities and Employability Characteristics <i>Describe career opportunities and identify various employability characteristics and additional skills required in the workplace.</i>	Lesson
4 days: 54–57	Job Acquisition and Advancement <i>Describe job acquisition and advancement skills.</i>	Lesson
1 day: 58	Para Jumble	Game
4 days: 59–62	Unit Activity/Threaded Discussion—Unit 3	Activity
1 day: 63	Post-test—Unit 3	Assessment

Unit 4: Professional and Personal Skills

Summary

In this unit, you'll explain the importance of positive work ethics and describe good work habits. Then, you'll identify various aspects of personal integrity and describe laws and organizational policies that ensure safety at the workplace. In addition, you'll describe effective reading, writing, speaking, and listening skills. Finally, you'll explain the importance of diversity awareness and describe strategies to resolve workplace conflicts.

Day	Activity/Objective	Type
4 days: 64–67	Positive Work Ethics <i>Explain the importance of positive work ethics and describe good work habits.</i>	Lesson
4 days: 68–71	Integrity <i>Identify various aspects of personal integrity and describe laws and organizational policies that ensure safety at the workplace.</i>	Lesson
4 days: 72–75	Reading and Writing <i>Describe effective reading and writing skills.</i>	Lesson
4 days: 76–79	Speaking and Listening <i>Describe effective speaking and listening skills.</i>	Lesson

Day	Activity/Objective	Type
3 days: 80–82	Diversity Awareness <i>Explain the importance of diversity awareness and describe strategies to resolve workplace conflicts.</i>	Lesson
1 day: 83	Space Jumble	Game
4 days: 84–87	Unit Activity/Threaded Discussion—Unit 4	Activity
1 day: 88	Post-test—Unit 4	Assessment
1 day: 89	Semester Review	
1 day: 90	End-of-Semester Test	Assessment

Course Map

You will achieve course level objectives by completing each lesson’s instruction, assignments, and assessments. For a detailed look at how the materials meet these objectives, review the [course map for Semester B](#).