



Quality Control, Blueprint Reading, and Precision Measurement Lecture Syllabus *

Course Information

Instructor	Jeremy Williams
Phone	w:(406)496-3755 or c:(406)690-0225
Email	JWilliams@mtech.edu
Credits	4
Campus	Highlands College

Description

This class meets once per week. Through lecture and hands on application, students learn the importance of quality control in the aerospace industry and the procedures that must be followed to maintain those quality standards. They will learn the dangers of foreign object debris (FOD) in final products and how to maintain strict quality standards. Students will learn the different quality certifications commonly seen in high end manufacturing shops and how to maintain an audit ready shop. This course covers the basics for understanding the reading of blueprints and shop drawings. The use of AWS welding symbols for blueprint reading is also covered. Students will also learn the proper use and care of precision measuring equipment such as calipers, micrometers, and feeler gauges.

Textbooks

None.

Attendance

Attendance is required and will make up 50% of the grade for the semester. Roll will be taken immediately at the start of class. 100 points will be given per day for attendance for students that show up on time. If a student will be late for class and they notify the instructor before the start of class they will receive 75 points for attendance for the day. Students that show up late and don't call in or call in after the start of class will receive 50 points for the day. A student that misses class completely or shows up later than half way through the class period with or without prior approval will receive 0 points for the day. **Remember: Half of your grade is based on attendance! If you don't show up you will not pass!**



This workforce solution was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The solution was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.



Exams and Assignments

Midterm Exam
Class Participation
Final Exam
Attendance
Traveler Accuracy
Weekly Time Cards

Grade Breakdown

Class Assignments/Quizzes 25%
Attendance 50%
Final Exam 25%

Co-requisites

Shop Safety
Technical Math
Developmental Writing
Precision GTAW
Weld visual Inspection

Safety

Students will be required to abide by all shop safety rules. Any student failing to follow safety guidelines may be given a failed grade and will be removed from the program. Students will be responsible to provide their own safety equipment including:

- Safety glasses rated ANSI Z87+
- Sturdy shoes or boots. Safety toe shoes recommended (required for employment at MPP)

Course Outline

1) Quality Systems in Precision Manufacturing

- a) ISO 9001
- b) AS9100
- c) NADCAP

2) FOD

- a) What is FOD?
- b) Dangers of FOD
- c) Preventing FOD



This workforce solution was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The solution was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.



3) Maintaining Traceability

- a) What is traceability?
- b) Why is it important?
- c) Methods for maintaining traceability

4) Blueprint Reading

- a) Blueprint Interpretation
- b) Welding Symbols
- c) GD and T overview

5) Precision Measurement

- a) Calipers
- b) Micrometers
- c) Feeler gauges
- d) Height gauge

Note: Safety glasses are REQUIRED in the shop at ALL times.

*This program has propriety information owned by Montana Precision Products and cannot be used, reproduced, or disclosed to any other parties for any other purpose without the expressed written permission from Montana Precision Products.



This workforce solution was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The solution was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.