

BARSTOW COMMUNITY COLLEGE COURSE OUTLINE –**IMMT 80D****Dept. & Nbr: IMMT 80D****Abbrev Title: Process Quantative Skills****Full Title: Process Quantative Skills****Old Number:****Title 5 Category:** Associate Degree Applicable.**Certificate Applicable:**

Units	Course Hrs. per Week	Nbr of Weeks	Course Hrs. Total
Max: 2.0	Lecture 1.50	18	Lecture 27
Min: 2.0	Lab .50		Lab 27
	Contact DHR 0.0		Contact DHR 0.0
	Contact Total 3.0		Contact Total 54.0
	Non-contact DHR 0.0		Non-contact DHR 0.0

Delivery method: Lecture and Online/Hybrid**Selected Topic:** No**Grading:** Option (A-F) (P/NP)**Concurrent Course:** None.**Repeat Code:** May be taken two times with a grade of less than "C".**Basic Skills:** This is not a basic skills class.**CATALOG DESCRIPTION:**

Designed to give the student the fundamental skills necessary to perform various mathematical operations used in the field Covered in this course are basic mathematical operations necessary in instrumentation, pressure measurement, and factor conversion.

PREREQUISITES: E & I Level 1**COREQUISITES:** None.**RECOMMENDED PREPARATION:** None.**CONTENT:**

A: Basic mathematical operations necessary in instrumentation

B: Pressure measurement

C: Factor conversion.

COURSE OBJECTIVES:**Upon success completion of this course the student will be able to:**

1. Identify different units of pressure measurement
2. Convert measured values in the English system, using common conversion factor tables, to equivalent SI values.
3. Perform the basic mathematical operations necessary in instrumentation.
4. Square numbers and find the square root of numbers.
5. Perform the mathematical conversions necessary for instrumentation measurements.

COURSE-LEVEL STUDENT LEARNING OUTCOMES:

1. Find the point where Fahrenheit equals Celsius.
Assessment Method(s): Performance Evaluation.
 - Communication.
 - Critical Thinking.
 - Global Awareness.
 - Personal/Professional Development.
2. Do three temperature conversions, using figures provided by your instructor.
Assessment Method(s): Performance Evaluation.
 - Communication.
 - Critical Thinking.
 - Personal/Professional Development.
3. Calculate differential pressure using values provided by your instructor and calculate the volume of a vessel using variables provided by your instructor.
Assessment Method(s): Performance Evaluation.
 - Communication.
 - Critical Thinking.
 - Personal/Professional Development.

B. Critical Thinking Tasks/Assignments:

Critical thinking assignments include (but are not limited to) the following:

1. Identify options for measurements used in Industrial Maintenance Electrical & Instrumentation.
2. Solve problems related to various measurement requirements commonly found in E&I.

C. Measurement for Basis of Grades:

1. Substantial writing assignments, including:

- Written homework

If course is degree applicable, substantial writing assignments in course are inappropriate because:

- The course primarily involves skill demonstrations or problem solving.

2. Computational or non-computational problem-solving demonstration, including:

- Exam(s)
- Quizzes
- Homework problems

3. Skill demonstration, including:

- Class performance(s)

4. Objective examinations, including:

- Multiple choice
- Completion

5. Other

- Attendance/Participation
- Observation

REQUIRED READING, WRITING AND OTHER OUTSIDE-OF-CLASS ASSIGNMENTS:

Over an 18-week presentation of the course three hours of study are required for each unit of credit. Two hours of independent work done out of class are required for each hour of lecture. Outside of the regular class time the students in this class will be doing the following:

- Study
- Answer questions
- Skill Practice
- Required reading
- Problem solving activity or exercise
- Written work

BASIS FOR GRADES:

Writing Assignments	0 - 20%
Problem-Solving	0 - 20%
Skill Demonstrations	0 - 20%
Objective Examinations	0 - 20%
Attendance & Participation	0 - 20%
Other.....	%

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TOTAL	100%

TEXTS/MATERIALS

Texts used in degree applicable courses contain college-level materials. Representative examples: *(Format textbook listing as follows: Author, Title, Publisher, and Date)*

Contren. Industrial Maintenance Electrical and Instrumentation Level II, Prentice-Hall 2008

For all courses a list of required and recommended materials is maintained in the college bookstore.

=====Instructional Office Use Only - Signatures and Codes=====

Instructional Vice President Approval: Steven Eaton, AAVP

Curriculum Committee Approval Date: May 2, 2014