Mohawk valley community college
Utica and Rome New york

ET127 Modern Industrial Practice
3.0 Credit Hours

1. COURSE DESCRIPTION:

ET 127 Modern Industrial Practice C-3 P-2 Cr-3

This course presents a broad introduction of topics related to Industrial and Manufacturing environments. Key principles of safety and workplace hazard awareness including Globally Harmonized workplace guidelines, Quality Practices & Measurement methods, modern manufacturing processes & production methods, and an awareness of maintenance procedures in manufacturing environments are discussed.

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1. Co-requisite:

Co-requisite: None

1. Required Texts, Reading, Materials:
2. STUDENT LEARNING OUTCOMES:

The student will be able to:

1. Present information and ideas about highly technological manufacturing in various written formats
2. Apply basic mathematics to the solution of problems including inclined planes, wedges, surface area, and other mechanical systems.
3. Read and interpret basic industrial diagrams and blueprints that include international standard symbols and drawing practices.
4. Read, analyze, and use technical documents such as spreadsheets, basic fluid power schematics, industrial prints, electrical schematics, and other drawings showing the basic components of a mechatronic system.
5. Apply basic troubleshooting techniques to various industrial manufacturing systems.
6. Engage in dialogue about current technologies and scientific events and trends both nationally and globally concerning highly technological manufacturing.
7. Interact and collaborate electronically with other students in other locations in a non-competitive environment utilizing discussion boards.
8. Identify common safety concerns, identify workplace hazards as well as safe job practices.
9. MAJOR COURSE TOPICS:

**Section 1: Occupational Safety and Hazard Awareness 5 periods**

Lesson 1A - Syllabus and OSHA

Lesson 1B - Hazards Awareness

Lesson 1C - PPE

Lesson 2A - Fire and EMS

Lesson 2B - Electrical Safety

Lesson 2C - Tool Safety

Lesson 2D - Lockout - Tagout (LOTO)

Lesson 3A - Ergonomics

Lesson 3B - Bloodborne Pathogens

**Section 2: The Manufacturing Environment 5 periods**

Lesson 3C - Introduction to Manufacturing

Lesson 3D - Measurements

Lesson 4A Industrial Production - Quality

Lesson 4B Six Sigma and Lean Manufacturing

Lesson 4C Business Basics

Lesson 4D Supply Chain

Lesson 5A Simple Machines and Mechanical Systems

Lesson 5B Electrical Basics and Motors

Lesson 5C and D Technical Print Reading

**Section 3: Troubleshooting, Problem Solving,**

**and Preventative Maintenance 4 periods**

Lesson 6A Trouble Shooting and Problem Solving

Lesson 6B Trouble Shooting and Technical Areas of Concern

Lesson 7A Preventative and Predictive Maintenance

Lesson 7B Total Productive Maintenance

Lesson 7C Quality

Lesson 8A Introduction to Measuring Process Quality

Lesson 8B Quality Improvement and Assessment

Lesson 8C Troubleshooting for Quality

1. LABORATORY TOPICS:

Student will participate in the laboratory exercises, tours, talks and activities. At the end of each laboratory a lab report will be submitted as part of the grading.

**Note: Lab schedule will depend on availability of manufacturing tours/meeting.**

1. LAB – Job Readiness Materials and Careers
2. LAB – Safety Training
3. LAB – TBD LAB will include meeting virtual or on the plant stie
4. LAB – TBD These are scheduled as they are available
5. LAB - TBD They would include:
6. LAB - TBD
7. LAB – TBD Indium Co, FX Matts
8. LAB - TBD CNC LAB, CREE
9. LAB - TBD FAB LAB, Walmart distribution
10. LAB - TBD Career Services
11. LAB - TBD
12. LAB - TBD
13. LAB - TBD
14. Make up as needed

# **COURSE NAME: \_\_\_\_\_ET127 Modern Industrial Practices**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## **DATE FACULTY NAME CHANGE INPUT MEASUREMENT ASSESSMENT ACTION**

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| **2/1/14** | **R.C. Decker** | **New Outline for Proposed Course** | **Industry and Grant Activity** | **Course review and adaptation** |  |  |
| **1/21/16** | **M Higgins** | **Add disclaimers** | **College Requirements** |  |  |  |
| **4/20/17** | **M Higgins** | **Add detail to course outline** | **College Requirements** |  |  |  |
| **8/17/16** | **M. Higgins** | **Reformat Course Outline and Schedule** | **From Sybil web page** |  |  |  |
| **8/17/19** | **M Higgins** | **Update CRNs, Sec #’s** | **SIRS** |  |  |  |
| **8/17/20** | **M Higgins** | **Update CRNs, Sec #’s** | **SIRS** |  |  |  |
| **8/22/21** | **M Higgins** | **Update CRNs, Sec #’s** | **SIRS** |  |  |  |
| **8/17/22** | **M Higgins** | **Update CRNs, Sec #’s** | **SIRS** |  |  |  |
| **1/7/23** | **M Higgins** | **Update CRNs, Sec #’s** | **SIRS** |  |  |  |
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