

Course Outline

Course Title: Process Control for Industrial Mechanical Technologists

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Semester Course Prefix and Number: EIAT 1257
Old Quarter Course Prefix and Number:

Approval Date: March 2011
Revision Date:

Number of Credits: 3 **Number of Lecture Credits:** 2
Semester(s) Offered: 24 **Number of Lab Credits:** 1 **Number of Lab Hours:** 2
Class Size: **Number of Studio/Demonstration/Internship Credits:**
Negotiated by AASC on
(date) _____

Course Purpose Code:

- _____ 0 – Developmental Courses
- _____ 1 – Non-transferable, General Education
- X 2 – Technical course related to career programs
- _____ 3 – College course which has the primary goal of applying certain concepts (e.g. vocal ensemble)
- _____ 4 – Other college course not considered a part of general education (MNTC) e.g. computer science, health, physical education
- _____ 5 – Course which is intended to fulfill the Minnesota Transfer Curriculum (MNTC) requirements.
- _____ 9 – Continuing Education/Customized Training specialized credit course (not occurring in 0-5)

Catalog Description:

This course provides an overview of the system and process controls. The course outlines common system control configurations, equipment layouts, and quality control strategies. Included in the coursework is a general overview of control standards, flow meters and calibration, radioactive safety, instrumentation components, process parameters and terminology, operator interface and system troubleshooting. The course focus is on practical application from an operational viewpoint.

Prerequisites and/or recommended entry skills/knowledge:

Course Prerequisite(s): EIAT 1255, Electrical For Operators
Reading Prerequisite: None
Composition Prerequisite: None
Mathematics Prerequisite: None

Career Programs and Transfer Majors Accessing this Course:

Industrial Technology – mining emphasis

Minnesota Transfer Curriculum Goal(s) partially met by this course if applicable: Notes: No more than two goals may be met by any one course. (Curriculum Committee review and the Chief Academic Officer's approval are required).

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|---|---|
| 0. <u> X </u> None | 6. _____ The Humanities and Fine Arts |
| 1. _____ Communications | 7. _____ Human Diversity |
| 2. _____ Critical Thinking | 8. _____ Global Perspectives |
| 3. _____ Natural Sciences | 9. _____ Ethical and Civic Responsibility |
| 4. _____ Mathematical/Logical Reasoning | 10. _____ People and the Environment |
| 5. _____ History and the Social and Behavioral Sciences | |

Learning outcomes, including any relevant competencies listed in the Minnesota Transfer Curriculum:

Following the completion of this course the student will be able to:

- demonstrate logical troubleshooting skills.
- demonstrate understanding of radioactive safety.
- analyze the relationship between operator action and systems reaction.
- analyze what operators are controlling and why.
- demonstrate safe work practices.
- demonstrate the relationship between control system stability and product quality.
- identify primary measurement devices related to precise control.
- identify final control devices related to process control.
- analyze closed loop control.

Student assessment methods:

Lab assignments, worksheets, papers, and tests.

Use of instructional technology (includes software, interactive video and other instructional technologies):

Power Point Software, videos, software-based lab simulators

Lecture covers theory and terminology

Lab: scheduled lab, lab by arrangement, and/or on-the-job-training/internships

Outline of the major course content:

See catalog description – course must also include:

- Diamond drill to mine sampling to production

Additional special information (special fees, directives on hazardous materials, etc.)

Transfer Information: (Please list colleges/majors that accept this course in transfer.)

Approvals:

Body	Representative Signatures	Date
Curriculum Committee		
Faculty Association		
Academic Affairs Standards Committee		
Chief Academic Officer		

Distribution: Original – Administrative Office

Copies: Curriculum Committee Chair, Learning Center, Library, Originating Faculty Member, Records, Student Services, Scheduler, Transfer Specialist

Revised February 10, 2004