MASTER SYLLABUS

WASHTENAW COMMUNITY COLLEGE

Course Discipline Code & No: UAF134 **Title:** Controls and Instrumentation **Effective Term** SS 2009

Division Code: VCT **Department Code:** UA **Org #:** 28310

Don't publish: ☐ College Catalog ☒ Time Schedule ☐ Web Page

Reason for Submission. Check all that apply.

- ☒ New course approval
- ☐ Three-year syllabus review/Assessment report
- ☐ Course change
- ☐ Reactivation of inactive course
- ☐ Inactivation (Submit this page only.)

Change information: Note all changes that are being made. Form applies only to changes noted.

- ☐ Consultation with all departments affected by this course is required.
- ☐ Course discipline code & number (was _____)*
  *Must submit inactivation form for previous course.
- ☐ Course title (was _____)
- ☐ Course description
- ☐ Course objectives (minor changes)
- ☐ Credit hours (credits were: _____)
- ☐ Total Contact Hours (total contact hours were: _____)
- ☐ Distribution of contact hours (contact hours were: lecture: _____ lab _____ clinical _____ other _____)
- ☐ Pre-requisite, co-requisite, or enrollment restrictions
- ☐ Change in Grading Method
- ☐ Outcomes/Assessment
- ☐ Objectives/Evaluation
- ☐ Other _____

Rationale for course or course change. Attach course assessment report for existing courses that are being changed.

Approvals Department and divisional signatures indicate that all departments affected by the course have been consulted.

Department Review by Chairperson ☐ New resources needed ☐ All relevant departments consulted

Print: Dan Welch (Faculty/Preparer) Signature D. Welch Date: 2/2/09

Print: _____ (Department Chair) Signature _____ Date: _____

Division Review by Dean

☐ Request for conditional approval

Recommendation ☐ Yes ☐ No D. Welch (Dean's/Administrator's Signature) Date 2/2/09

Curriculum Committee Review

Recommendation _____

☐ Tabled ☒ Yes ☐ No _____ (Curriculum Committee Chair's Signature) Date 3/18/09

Vice President for Instruction Approval

Roger M. Raley (Vice President's Signature) Date 3/19/09

Approval ☒ Yes ☐ No ☐ Conditional

200901 Do not write in shaded area.

Log File 2/9/09 sj Ecopy ☐ Banner 3/19 C&A Database 3/19 C&A Log File 3/19 lr Basic skills ☐ Contact fee ☐

Please return completed form to the Office of Curriculum & Assessment and email an electronic copy to sjohn@wccnet.edu for posting on the website.

***Complete ALL sections which apply to the course, even if changes are not being made.**

Course: UAF134	**Course title:** Controls and Instrumentation

Credit hours: 3

If variable credit, give range:

_____ to _____ credits

Contact hours per semester:

	Student	Instructor
Lecture:	45	45
Lab:		
Clinical:		
Practicum:		
Other:		
Totals:	45	45

Are lectures, labs, or clinicals offered as separate sections?

☐ Yes - lectures, labs, or clinicals are offered in separate sections

☐ No - lectures, labs, or clinicals are offered in the same section

Grading options:

☐ P/NP (limited to clinical & practica)

☐ S/U (for courses numbered below 100)

☒ Letter grades

Prerequisites. Select one:

☒ College-level Reading & Writing

☐ Reduced Reading/Writing Scores
(Add information at Level I prerequisite)

☐ No Basic Skills Prerequisite
(College-level Reading and Writing is not required.)

In addition to Basic Skills in Reading/Writing:

Level I (enforced in Banner)

	Course	Grade	Test	Min. Score	Concurrent Enrollment (Can be taken together)	Corequisites (Must be enrolled in this class also during the same semester)
					☐	
☐ and ☐ or					☐	
☐ and ☐ or					☐	
☐ and ☐ or					☐	

Level II (enforced by instructor on first day of class)

	Course	Grade	Test	Min. Score
☐ and ☐ or				
☐ and ☐ or				

Enrollment restrictions (In addition to prerequisites, if applicable.)

☐ and ☐ or Consent required

☐ and ☒ or Admission to program required
Program: UA apprenticeship

☐ and ☐ or Other (please specify):
_____

Please send syllabus for transfer evaluation to:

Conditionally approved courses are not sent for evaluation.
Insert course number and title you wish the course to transfer as.

☐ E.M.U. as _____

☐ U of M as _____

☐ _____ as _____

☐ _____ as _____

☐ _____ as _____

☐ _____ as _____

Course UAF134	**Course title:** Controls and Instrumentation

Course description State the purpose and content of the course. Please limit to 500 characters.	The purpose of this course is to teach the fundamentals of basic electricity and the fundamentals of electrical controls found in mechanical equipment installations such as air conditioning, heating, fuel burning, water heating, and refrigeration. Safety is stressed. This course is taught at United Association (UA) Training Centers throughout the United States and Canada. Enrollment is limited to apprentices accepted in to a UA training program.	
Course outcomes List skills and knowledge students will have after taking the course. **Assessment method** Indicate how student achievement in each outcome will be assessed to determine student achievement for purposes of course improvement.	**Outcomes** (applicable in all sections) Upon successful completion of this course, the student will be able to: • Explain how pneumatic and electrical controllers are used in the control of process piping systems • Install sensors to measure pressure, temperature, flow and level in piping systems used in industrial applications • Describe the symbols used for various measuring and control devices used in steam generating facilities • Demonstrate how to perform a control loop test to determine if the system is capable of performing properly	**Assessment** Methods for determining course effectiveness This course is assessed externally by the local's Joint Apprenticeship Training Committee (JATC), consisting of industry representatives and UA members. The local receives feedback on needed technical updates and apprentice skill performance.
Course Objectives Indicate the objectives that support the course outcomes given above. **Course Evaluations** Indicate how instructors will determine the degree to which each objective is met for each student.	**Objectives** (applicable in all sections) Objectives and evaluation methods follow the International Pipe Trades Curriculum Outline issued by the UA Training Department.	**Evaluation** Methods for determining level of student performance of objectives

List all new resources needed for course, including library materials.
No new resources, courses are taught at existing UA local training schools.

Student Materials:

List examples of types		**Estimated costs**
Texts Supplemental reading Supplies Uniforms Equipment Tools Software	UA local training schools provide all the necessary books and materials for the students.	$ 0

Equipment/Facilities: Check all that apply. (All classrooms have overhead projectors and permanent screens.)

Check level only if the specified equipment is needed for all sections of a ☐ Off-Campus Sites

course.

☐ Level I classroom
Permanent screen & overhead projector

☐ Level II classroom
Level I equipment plus TV/VCR

☐ Level III classroom
Level II equipment plus data projector, computer, faculty workstation

☐ Testing Center
☐ Computer workstations/lab
☐ ITV
☐ TV/VCR
☐ Data projector/computer
☒ Other Taught at UA Local schools

Assessment plan:

Learning outcomes to be assessed (list from Page 3)	Assessment tool	When assessment will take place (semester & year)	Course section(s)/other population	Number students to be assessed
• Explain how pneumatic and electrical controllers are used in the control of process piping systems • Install sensors to measure pressure, temperature, flow and level in piping systems used in industrial applications • Describe the symbols used for various measuring and control devices used in steam generating facilities • Demonstrate how to perform a control loop test to determine if the system is capable of performing properly	Contractors (employer) provide paper feedback forms for apprentice skill performance reviews. JATC contractor members provide specifications detailing technical updates.	WCC will prepare a summary report on assessment activities in Winter 2011 and every three years thereafter.	All	All

Scoring and analysis of assessment:

1. Indicate how the above assessment(s) will be scored and evaluated (e.g. departmentally developed rubric, external evaluation, other). Attach the rubric/scoring guide.
   Individual locals use apprentice feedback forms filled out by the employing contractor.

2. Indicate the standard of success to be used for this assessment.
   The standard of success is set by the local JATC.

3. Indicate who will score and analyze the data (data must be blind-scored).
   The data is analyzed by the JATC as a committee.

4. Explain the process for using assessment data to improve the course.
   Results are initially shared with the training coordinator for the local. The training coordinator then works with appropriate instructor staff to make needed changes.