WASHTENAW COMMUNITY COLLEGE

MASTER SYLLABUS

Course Discipline Code & No: HVA 130 **Title:** Electrical Systems and Illumination **Effective Term** Winter 2006

Division Code: _____ **Department Code:** WAFD: HVAC-R **Org #:** 14750

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 CON 079)*
  *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.

This is t he fifth course in a series of five courses used for benchmarking skills by the University of Michigan facilities management department.

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: L eslie R. Pullins Faculty/Preparer Signature Leslie Pullins Date: 1-5-07

Print: W illiam H. Figg Department Chair Signature William H. Figg Date: 1-5-07

Division Review by Dean

☐ Request for conditional approval

Recommendation ☒ Yes ☐ No _____ Dean's/Administrator's Signature Date 1/5/07

Curriculum Committee Review

Recommendation _____

☐ Tabled ☒ Yes ☐ No _____ Curriculum Committee Chair's Signature Date 3/19/07

Vice President for Instruction Approval

_____ Vice President's Signature Date 3/28/07

Approval ☒ Yes ☐ No ☐ Conditional

Do not write in shaded area.
Log File 1/5/07 ✓ Ecopy ☐ Banner 3/30 C&A Database 3/30 C&A Log File 3/30 Basic skills ☐ Contact fee ☐

2007

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: HVA 130	**Course title: Electrical Systems and Illumination**

Credit hours: 2

If variable credit, give range:

_____ to _____ credits

Contact hours per semester:

	Student	Instructor
Lecture:	30	
Lab:		
Clinical:		
Practicum:		
Other:		
Totals:	30	

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)
	REA 070		Compass Reading	68	☒	
☒ and ☐ or	MTH 067		Compass Pre-Algebra	37	☒	
☐ 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: _____

☐ 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 HVA 130	**Course title:** Electrical Systems and Illumination	
Course description State the purpose and content of the course. Please limit to 500 characters.	This Course is designed for the staff to gain the necessary knowledge to be able to safely operate and maintain a buildings electrical equipment, identify the components of electrical systems, and maintain electric motors and lighting fixtures.	
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) 1. Apply safety rules and safe work practices while working around electricity. 2. Identify the physical and electrical properties of AC and DC circuits. 3. Interpret wiring diagrams for the purpose of wiring circuits, determining the normal operation of circuits, and for troubleshooting circuit faults. 4. Identify the physical and electrical properties of lighting devices.	**Assessment** Methods for determining course effectiveness A written final exam will be administered by the BOMI institute (a nationally recognized testing institution).
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) For outcome 1 Recognize the safe and effective use of an electrical meter Identify the safety precautions to follow while servicing mechanical and electrical equipment. For outcome 2 Demonstrate a knowledge of alternating current and direct current For outcome 3 Interpret building power distribution through wiring diagrams. For outcome 4 Identify the physical and electrical properties of light and illumination.	**Evaluation** Methods for determining level of student performance of objectives For outcome 1 A written explanation on safe and effective use of a multimeter A written explanation of electrical safety. For outcome 2 A written explanation of the differences between AC and DC power. For outcome 3 A written explanation of how to read a wiring diagram. For outcome 4 A written explanation of the operation, and theory of lighting.

List all new resources needed for course, including library materials.

Student Materials:

List examples of types Texts Supplemental reading Supplies Uniforms Equipment	**Electrical Systems and Illumination**	**Estimated costs** $ 200.00

Tools Software		

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 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

☒ Off-Campus Sites
☐ Testing Center
☐ Computer workstations/lab
☐ ITV
☐ TV/VCR
☐ Data projector/computer
☐ Other _____

Assessment plan:

Learning outcomes to be assessed (list from Page 3)	Assessment tool	When assessment will take place	Course section(s)/other population	Number students to be assessed
1. Apply safety rules and safe work practices while working around electricity.	BOMI analysis	Summer 2009	All sections	All students completing course
2. Identify the physical and electrical properties of AC and DC circuits.	BOMI analysis	Summer 2009	All sections	All students completing course
3. Interpret wiring diagrams for the purpose of wiring circuits, determining the normal operation of circuits, and for troubleshooting circuit faults.	BOMI analysis	Summer 2009	All sections	All students completing course
4. Identify the physical and electrical properties of lighting devices.	BOMI analysis	Summer 2009	All sections	All students completing course

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.
   BOMI will analyze the test.

2. Indicate the standard of success to be used for this assessment.
   70% of students should pass the BOMI test.

3. Indicate who will score and analyze the data.
   The BOMI institute will score the exam; results will then be forwarded to the full time faculty of the HVAC program for assessment.

4. Explain the process for using assessment data to improve the course.
   BOMI does not release the test to WCC staff, they will forward the number of people who passed versus failed.

   NOTE: BOMI institute administers the exam and they do not release it to outside parties.