MASTER SYLLABUS

WASHTENAW COMMUNITY COLLEGE

Course Discipline Code & No: UAE220 **Title:** Environmental Technology in HVACR
Effective Term F08

Division Code: VCT **Department Code:** UASD **Org #:** 28200

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.
This is the second course in the new Environmental Technology associate degree program.

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: Rod Jacq (Faculty Preparer) Signature: R. Jacq Date: 6/27/08

Print: Dan Welch (Department Chair) Signature: D. Welch Date: 6/27/08

Division Review by Dean
☒ Request for conditional approval

Recommendation ☐ Yes ☐ No — D. Welch (Dean's/Administrator's Signature) — 6/27/08 (Date)

Curriculum Committee Review
Recommendation _____
☐ Tabled ☒ Yes ☐ No — Curriculum Committee Chair's Signature — 9/17/08 (Date)

Vice President for Instruction Approval
R M. Palau 4/12/08
Approval ☒ Yes ☐ No ☒ Conditional — Vice President's Signature: Roger M. Palau. — 7/23/08 (Date)

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Do not write in shaded area.
Log File 6/27/08 S Ecopy ☐ Banner 7/23 C&A Database 7/23 C&A Log File 7/23 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:	Course title:
UAE220	Environmental Technology in HVACR

Credit hours: 3

If variable credit, give range:

_____ to _____ credits

Contact hours per semester:

	Student	Instructor
Lecture:	45	45
Lab:	0	
Clinical:		
Practicum:	0	
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: _____

☐ 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	Course title
UAE220	Environmental Technology in HVACR

Course description State the purpose and content of the course. Please limit to 500 characters.	In today's environmentally conscious business climate, many industries are looking to ensure that their business is reducing their impact on the environment. The HVACR industry is poised to make considerable contributions to reducing these impacts. This course will discuss the utilization of sustainable and environmental "green" technologies in the HVACR field. There will be discussion on the general concepts and practical applications regarding the proper use of these technologies within the HVACR industry. In addition, discussion will occur on the increasing use of sustainable products and their use in the HVACR field.	
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)	**Assessment** Methods for determining course effectiveness
	1. Identify and describe 3 to 5 existing and emerging environmental technologies in the HVACR field.	Student scores on the National Green Awareness Certification Exam
	2. Locate and list 3 to 5 industry resources on the available environmental technologies.	Student scores on the National Green Awareness Certification Exam
	3. Produce reports on energy usage and potential savings for each selected current conventional equipment compared to new replacement equipment using environmentally friendly "green sustainable solutions".	Student scores on the National Green Awareness Certification Exam
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)	**Evaluation** Methods for determining level of student performance of objectives
	Outcome 1: - Identify 3 to 5 emerging environmental technologies in the HVACR field	Exam consisting of multiple choice, true/false, fill in the blank, and short answer questions.
	- Describe 3 to 5 emerging environmental technologies in the HVACR field	Essay Exam.
	Outcome 2 - Locate and describe 3 to 5 industry resources on the available environmental technologies	Student Project paper.
	- Identify key industry terms and definitions related to the environmental technologies field.	Exam consisting of multiple choice, true/false, fill in the blank, and short answer questions.
	Outcome 3 - Produce report on energy usage - Identify opportunities for energy saving - Propose new replacement equipment using environmentally friendly "green sustainable solutions".	Review of student proposal and presentation by instructor with input suggestions from class.

List all new resources needed for course, including library materials.
Blackboard server- course will be taught online.

Student Materials:

List examples of types		Estimated costs
Texts Supplemental reading Supplies Uniforms Equipment	Green Mechanical Systems, Esco Press 2007	$ 25.00

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 Online course, Blackboard server space

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
1. Identify and describe 3 to 5 existing and emerging environmental technologies in the HVACR field.	Green Awareness Certification Exam	Spring 2009 for students enrolled in 2008-09 year, and every year thereafter.	All	75% of all students
2. Locate and list 3 to 5 industry resources on the available environmental technologies.	Green Awareness Certification Exam	Spring 2009 for students enrolled in 2008-09 year, and every year thereafter.	All	75% of all students
3. Produce reports on energy usage and potential savings for each selected current conventional equipment compared to new replacement equipment using environmentally friendly "green sustainable solutions".	Green Awareness Certification Exam	Spring 2009 for students enrolled in 2008-09 year, and every year thereafter.	All	75% of all students determined through a random sampling

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.

   After completing this course, students will register for and take the Green Awareness Certification Test sponsored by the Green Mechanical Council (GMC), a national standards group. This test is proprietary to the GMC.

2. Indicate the standard of success to be used for this assessment.

   75% of the students taking the Green Awareness Certification Test will score a passing grade or higher on the test.

3. Indicate who will score and analyze the data (data must be blind-scored).

   The UAE instructor will coordinate with the Green Mechanical Council for test registrations. The National Inspection and Testing Certification (NITC) organization will proctor the tests. Test results from the NITC will be shared with the UA Program Administrator and the UA Training Department who will analyze the data.

4. Explain the process for using assessment data to improve the course.

   Summary results and recommendations will be shared with the instructors and the UAE Advisory Committee. If students are not scoring well on the test as a whole or in particular sections, adjustments will be made to the course to strengthen problem areas for the students. When appropriate, students and representatives of the UA and the Green Mechanical Council will be asked for input to revising course material.