

Course Discipline Code & No: UAT 309 Title: Combustion Analysis  
 Effective Term Fall 2009  
 Division Code: VCT Department Code: UA Org #: 28200  
 Don't publish:  College Catalog  Time Schedule  Web Page

Reason for Submission. Check all that apply.  
 New course approval  Reactivation of inactive course  
 Three-year syllabus review/Assessment report  Inactivation (Submit this page only.)  
 Course change

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

<input type="checkbox"/> Consultation with all departments affected by this course is required.	<input type="checkbox"/> Total Contact Hours (total contact hours were: _____)
<input type="checkbox"/> Course discipline code & number (was _____)* *Must submit inactivation form for previous course.	<input type="checkbox"/> Distribution of contact hours (contact hours were: lecture: _____ lab _____ clinical _____ other _____)
<input type="checkbox"/> Course title (was _____)	<input type="checkbox"/> Pre-requisite, co-requisite, or enrollment restrictions
<input type="checkbox"/> Course description	<input type="checkbox"/> Change in Grading Method
<input type="checkbox"/> Course objectives (minor changes)	<input type="checkbox"/> Outcomes/Assessment
<input type="checkbox"/> Credit hours (credits were: _____)	<input type="checkbox"/> Objectives/Evaluation
	<input type="checkbox"/> 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: 12/11/09  
 Print: Dan Welch Department Chair Signature: D. Welch Date: 12/11/09

Division Review by Dean  
 Request for conditional approval  
 Recommendation  Yes  No  
 Dean's/Administrator's Signature: [Signature] Date: 12/12/09

Curriculum Committee Review  
 Recommendation  Tabled  Yes  No  
 Curriculum Committee Chair's Signature: [Signature] Date: 1/5/10

Vice President for Instruction Approval  
 Vice President's Signature: [Signature] Date: Jan. 14, 2010  
 Approval  Yes  No  Conditional

Do not write in shaded area.  
 Log File  /1/16/09 Copy  Banner  C&A Database  C&A Log File  Basic skills  Contact fee

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

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

Course: <u>UAT 309</u>	Course title: <u>Combustion Analysis</u>
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<b>Credit hours:</b> <u>1.5</u> If variable credit, give range: _____ to _____ credits	<b>Contact hours per semester:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center; border-bottom: 1px solid black;">Student</td> <td style="text-align: center; border-bottom: 1px solid black;">Instructor</td> </tr> <tr> <td>Lecture:</td> <td style="text-align: center;"><u>22.5</u></td> <td style="text-align: center;"><u>22.5</u></td> </tr> <tr> <td>Lab:</td> <td style="text-align: center;">—</td> <td style="text-align: center;">—</td> </tr> <tr> <td>Clinical:</td> <td style="text-align: center;">—</td> <td style="text-align: center;">—</td> </tr> <tr> <td>Practicum:</td> <td style="text-align: center;">—</td> <td style="text-align: center;">—</td> </tr> <tr> <td>Other:</td> <td style="text-align: center;">—</td> <td style="text-align: center;">—</td> </tr> <tr> <td><b>Totals:</b></td> <td style="text-align: center;"><u>22.5</u></td> <td style="text-align: center;"><u>22.5</u></td> </tr> </table>		Student	Instructor	Lecture:	<u>22.5</u>	<u>22.5</u>	Lab:	—	—	Clinical:	—	—	Practicum:	—	—	Other:	—	—	<b>Totals:</b>	<u>22.5</u>	<u>22.5</u>	<b>Are lectures, labs, or clinicals offered as separate sections?</b> <input type="checkbox"/> Yes - lectures, labs, or clinicals are offered in separate sections <input type="checkbox"/> No - lectures, labs, or clinicals are offered in the same section	<b>Grading options:</b> <input type="checkbox"/> P/NP (limited to clinical & practical) <input type="checkbox"/> S/U (for courses numbered below 100) <input checked="" type="checkbox"/> Letter grades
	Student	Instructor																						
Lecture:	<u>22.5</u>	<u>22.5</u>																						
Lab:	—	—																						
Clinical:	—	—																						
Practicum:	—	—																						
Other:	—	—																						
<b>Totals:</b>	<u>22.5</u>	<u>22.5</u>																						

**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 <small>Can be taken together</small>	Corequisites <small>Must be enrolled in this class also during the same semester</small>
<input type="checkbox"/> and <input type="checkbox"/> or _____	_____	_____	_____	<input type="checkbox"/>	_____
<input type="checkbox"/> and <input type="checkbox"/> or _____	_____	_____	_____	<input type="checkbox"/>	_____
<input type="checkbox"/> and <input type="checkbox"/> or _____	_____	_____	_____	<input type="checkbox"/>	_____

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

Course	Grade	Test	Min. Score
<input type="checkbox"/> and <input type="checkbox"/> or _____	_____	_____	_____
<input type="checkbox"/> and <input type="checkbox"/> or _____	_____	_____	_____

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

- and  or Consent required     
  and  or Admission to program required     
  and  or Other (please specify): \_\_\_\_\_  
 Program: UA Instructor Training Program

**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.

<input type="checkbox"/> E.M.U. as _____	<input type="checkbox"/> _____ as _____
<input type="checkbox"/> U of M as _____	<input type="checkbox"/> _____ as _____
<input type="checkbox"/> _____ as _____	<input type="checkbox"/> _____ as _____

<b>Course</b> UAT 309	<b>Course title:</b> Combustion Analysis
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<b>Course description</b> State the purpose and content of the course. Please limit to 500 characters.	This sustainable energy course is designed to educate UA instructors on the essential information required to train apprentices and journeymen on achieving higher fuel efficiencies, better system performance and reduced greenhouse gas emissions by performing and understanding combustion analysis. It is necessary to perform a combustion analysis on all combustion systems to ensure safe operation at peak efficiency. Upon successful completion and assessment, participants will receive a certification that attests to their knowledge of combustion analysis and carbon monoxide safety. Limited to UA Instructor Training Program graduates.
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<b>Course outcomes</b> List skills and knowledge students will have after taking the course. <b>Assessment method</b> Indicate how student achievement in each outcome will be assessed to determine student achievement for purposes of course improvement.	<b>Outcomes</b> (applicable in all sections)	<b>Assessment</b> Methods for determining course effectiveness
	<ol style="list-style-type: none"> <li>Incorporate combustion analysis into courses at the home local.</li> <li>Demonstrate combustion analysis techniques and evaluate results.</li> </ol>	<p>Survey of UA training coordinators/supervisors.</p> <p>Survey of UA training coordinators/supervisors.</p>

<b>Course Objectives</b> Indicate the objectives that support the course outcomes given above.  <b>Course Evaluations</b> Indicate how instructors will determine the degree to which each objective is met for each student.	<b>Objectives</b> (applicable in all sections)	<b>Evaluation</b> Methods for determining level of student performance of objectives
	<p>Outcome 1:</p> <ul style="list-style-type: none"> <li>Insert combustion analysis material into existing apprentice and journeyman courses for use at the home local</li> <li>Create stand alone combustion analysis courses for use at the home local</li> <li>Pass a certifying exam on combustion analysis and carbon monoxide safety</li> </ul> <p>Outcome 2:</p> <ul style="list-style-type: none"> <li>Demonstrate tools for measuring levels of carbon monoxide in exhaust systems</li> <li>Demonstrate adjustments to combustion systems that increase efficiency and safety</li> </ul>	<p>Class project</p> <p>Class project</p> <p>Certifying exam</p> <p>Student demonstration</p> <p>Student demonstration</p>

<b>List all new resources needed for course, including library materials.</b> No new resources are needed.
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<b>Student Materials:</b>		
<b>List examples of types</b> Texts Supplemental reading Supplies Uniforms Equipment Tools Software	UA Training Department provides all the necessary books and materials for the students.	<b>Estimated costs</b> \$ 0

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

Check level <u>only</u> if the specified equipment is needed for <u>all</u> sections of a course.	<input type="checkbox"/> Off-Campus Sites
<input type="checkbox"/> Level I classroom Permanent screen & overhead projector	<input type="checkbox"/> Testing Center
<input type="checkbox"/> Level II classroom Level I equipment plus TV/VCR	<input type="checkbox"/> Computer workstations/lab
<input checked="" type="checkbox"/> Level III classroom Level II equipment plus data projector, computer, faculty workstation	<input type="checkbox"/> ITV
	<input type="checkbox"/> TV/VCR
	<input type="checkbox"/> Data projector/computer
	<input type="checkbox"/> Other

**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
Incorporate combustion analysis into courses at the home local.	Survey of UA training coordinators/supervisors.	Spring 2011 for students enrolled in Summer 2010, and every three years thereafter.	All	75% of all students who teach related HVACR courses on behalf of the local union
Demonstrate combustion analysis techniques and evaluate results.	Survey of UA training coordinators/supervisors.	Spring 2011 for students enrolled in Summer 2010, and every three years thereafter.	All	75% of all students who teach related HVACR courses on behalf of the local union

**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.

Students' training activities will be scored and evaluated on a survey questionnaire covering both of the learning outcomes.

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

Based on the number of students who teach the learned materials in the subsequent year, 75% of them will score an average of satisfactory or above on the survey questionnaires to be completed by UA training coordinators/supervisors.

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

The UA Program Administrator will coordinate with UA training coordinators and the training department about the implementation of the assessment plan and the collection of data from UAT faculty and will discuss the results with UAT faculty.

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

The assessment will be shared with the appropriate UA training coordinators, training department and UAT faculty. The UA Program Administrator will solicit suggestions for improving the results and will work with UA training coordinators, the training department and UAT faculty to make needed changes to improve course content and student performance.