

**WASHTENAW COMMUNITY COLLEGE  
COURSE-SYLLABUS APPROVAL FORM (CSAF)**

APP 151

**SECTION I. SUBMISSION INFORMATION**

<b>1. Course:</b> Discipline/No: <u>APP 151</u> Title: <u>Medical Gas and Code</u> Start Term <u>F02</u>				
Division Code: <u>HAT</u> Department Code: <u>CIND</u> Org #: <u>14725</u> Don't publish: <input checked="" type="checkbox"/> in College Catalog <input checked="" type="checkbox"/> in Time Schedule <input checked="" type="checkbox"/> on Web Page				
<b>2. Type of Approval:</b> <input checked="" type="checkbox"/> Full Approval <input type="checkbox"/> Conditional Approval <hr/> <input checked="" type="checkbox"/> This proposal previously received conditional approval for the term: <u>2002-03</u>	<b>3. Reason for Submission:</b> This Course is being submitted for: (check all that apply) <input type="checkbox"/> New Course Approval <input type="checkbox"/> Five-year Syllabus Review <input type="checkbox"/> No changes to course <input checked="" type="checkbox"/> Major Change(s) <input type="checkbox"/> Minor Change(s)* <input type="checkbox"/> Reactivation of Inactive Course <input type="checkbox"/> Inactivation <small>*If requesting a change to a course that has conditional approval, please submit a complete syllabus.</small>			
<b>4. Change Information:</b> <table style="width:100%;"> <tr> <td style="width:50%; vertical-align: top;"> <b>Minor Changes</b>  <input type="checkbox"/> Course Discipline/Number (was _____)  <input type="checkbox"/> Course Title (was _____)  <input type="checkbox"/> Course Description  <input type="checkbox"/> Class Capacity (was: ____)  <input type="checkbox"/> Pre or Co-requisites  <input type="checkbox"/> Course Objectives (minor changes)  <input type="checkbox"/> Distribution of Contact Hours (contact hours were: lect: _____ lab _____ clin _____ other _____)  <input type="checkbox"/> Other _____             </td> <td style="width:50%; vertical-align: top;"> <b>Major Changes</b>  <input checked="" type="checkbox"/> Credit hours (credits were: <u>04</u>)  <input type="checkbox"/> Change in Grading Method  <input type="checkbox"/> Total Contact Hours (total contact hours were: _____)  <input type="checkbox"/> Approval for offering an Honors Section  <input type="checkbox"/> Approval for offering Distance Learning Sections  <input type="checkbox"/> General Education Distribution Course: Add <input type="checkbox"/> Remove <input type="checkbox"/>  <input type="checkbox"/> Pre or Co-requisites (that affect other departments)             </td> </tr> </table>			<b>Minor Changes</b> <input type="checkbox"/> Course Discipline/Number (was _____) <input type="checkbox"/> Course Title (was _____) <input type="checkbox"/> Course Description <input type="checkbox"/> Class Capacity (was: ____) <input type="checkbox"/> Pre or Co-requisites <input type="checkbox"/> Course Objectives (minor changes) <input type="checkbox"/> Distribution of Contact Hours (contact hours were: lect: _____ lab _____ clin _____ other _____) <input type="checkbox"/> Other _____	<b>Major Changes</b> <input checked="" type="checkbox"/> Credit hours (credits were: <u>04</u> ) <input type="checkbox"/> Change in Grading Method <input type="checkbox"/> Total Contact Hours (total contact hours were: _____) <input type="checkbox"/> Approval for offering an Honors Section <input type="checkbox"/> Approval for offering Distance Learning Sections <input type="checkbox"/> General Education Distribution Course: Add <input type="checkbox"/> Remove <input type="checkbox"/> <input type="checkbox"/> Pre or Co-requisites (that affect other departments)
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<b>5. Rationale</b> <span style="float:right">Changes are are being made in response to data from Assessment: yes <input type="checkbox"/> no <input type="checkbox"/></span> Reduce # of credits from 4 to 3				

**SECTION II. SIGNATURES**

<b>1. Department Review</b> Will any new resources be required? No, none anticipated <input checked="" type="checkbox"/> Yes <input type="checkbox"/> You must consult all departments that may be affected by this course. List departments contacted below and attach relevant documents. <hr/> Does the department support approval of this course? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no Print: <u>Patricia Crider</u> Faculty/Preparer Signature: <u>Patricia Crider</u> Date: <u>6/16/02</u> Print: _____ Department Chair Signature: _____ Date: _____		
<b>2. Division Review</b> Is this a curricular priority for your division? <input type="checkbox"/> yes <input type="checkbox"/> no (Comment _____) What is the estimated enrollment? _____ Recommendation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <u>Patricia Crider</u> Dean's Signature Date: <u>6/29/02</u>		
<b>3. Curriculum Committee Review</b> Recommendation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <u>Reeta A. Hootner</u> Curriculum Committee Chair's Signature Date: <u>9.12.02</u>		
<b>4. Vice President for Instruction and Student Services Approval</b> Approval <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <u>Patricia Crider</u> Executive Vice President's Signature Date: <u>9/12/02</u>		
ACS Code _____	Entered in Banner <u>9/23/02</u>	Entered in Access <u>9/23/02</u> Log File <u>9/23/02</u>
Approved for General Education Area/Group _____		Syllabus Date <u>2002</u>



**C. INSTRUCTIONAL OBJECTIVES**

**Unit #1 Medical Gas**

**The student will:**

1. Demonstrate ability to install medical gas systems
2. Describe the material used for installing medical gas systems
3. Demonstrate ability to conduct brazing of joints
4. Describe the requirements of purging systems
5. Demonstrate the requirements of using clean pipes and fittings
6. Describe the requirements of purchasing of material
7. Demonstrate ability to hook up head walls
8. Describe the special instruments required to install medical gas systems
9. Describe the various valves, gages, alarms, and manifolds used

**Unit #2 Code Requirements**

**The student will:**

1. Describe the requirements of the state exam
2. Discuss the requirements for administration and enforcement of the codes
3. Define the terms listed in the plumbing codes
4. Discuss the general regulations set forth in the codes
5. Describe the approved materials, joints, and connections
6. Describe approved sanitary drainage systems
7. Define the difference between indirect waste piping and special waste
8. Describe the code requirements for storm drainage systems
9. Describe the code requirements for vents and venting
10. Describe allowances for traps, interceptors, separators, and back water valves
11. Describe the approved means of installing drainage pipe clean outs
12. Describe the code requirements for the placement of plumbing fixtures
13. List approved types of hangers and supports
14. Describe the requirements of health care plumbing
15. List the code requirements for water supply and distribution
16. List the code requirements for individual water supply
17. Describe the techniques used for inspection, testing and maintenance of systems installed
18. Discuss the code requirements for engineered plumbing systems

**D. INSTRUCTIONAL METHODS, EVALUATION CRITERIA, AND ASSESSMENT**

**1. Instructional Methods:**

<input checked="" type="checkbox"/> Lecture/Discussion _____ <input type="checkbox"/> Clinical Instruction _____ <input checked="" type="checkbox"/> Laboratory Assignments _____ <input type="checkbox"/> Internet Assignments _____ <input type="checkbox"/> Computer Simulations _____ <input type="checkbox"/> On-Site Work Experience _____ <input type="checkbox"/> Team Assignments _____ <input type="checkbox"/> Demonstrations _____	<input type="checkbox"/> Performances _____ <input type="checkbox"/> Group Critiques _____ <input type="checkbox"/> Field Trips _____ <input type="checkbox"/> Telecourse _____ <input type="checkbox"/> ITV Course _____ <input type="checkbox"/> Self-Paced Instruction _____ <input type="checkbox"/> Other _____ <input type="checkbox"/> Other _____
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**2. Evaluation Criteria:**

<input checked="" type="checkbox"/> Attendance _____ <input checked="" type="checkbox"/> Class Discussion _____ <input type="checkbox"/> Papers _____ <input type="checkbox"/> Portfolios _____ <input type="checkbox"/> Projects _____ <input type="checkbox"/> Reports _____ <input type="checkbox"/> Clinical Assignments _____ <input checked="" type="checkbox"/> Home Work _____	<input checked="" type="checkbox"/> Quizzes _____ <input checked="" type="checkbox"/> Tests _____ <input type="checkbox"/> Midterm _____ <input checked="" type="checkbox"/> Final Exam _____ <input type="checkbox"/> Presentations _____ <input type="checkbox"/> Individual Performance _____ <input type="checkbox"/> Group/Team Performance _____ <input type="checkbox"/> Other _____
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**3. Assessment of Student Achievement:**

<input type="checkbox"/> Departmental Exam _____ <input type="checkbox"/> Follow-on Tracking _____ <input type="checkbox"/> Standardized Test _____ <input type="checkbox"/> Portfolio Assessment _____	<input checked="" type="checkbox"/> Pre-test/Post-test _____ <input type="checkbox"/> Simulations _____ <input type="checkbox"/> Comprehensive Project _____ <input type="checkbox"/> Other _____
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**F. EQUIPMENT, FACILITIES, TEXTS, MATERIALS, AND SUPPLIES**

**1. Special Equipment/Facilities :**

<input type="checkbox"/> Lab equipment _____ <input type="checkbox"/> Computer Lab _____ <input type="checkbox"/> CD ROM's _____ <input type="checkbox"/> Data Projector/Screen _____ <input type="checkbox"/> VCR _____ <input type="checkbox"/> TV Monitor _____	<input type="checkbox"/> ITV Classroom _____ <input type="checkbox"/> Off-Campus Sites _____ <input type="checkbox"/> Testing Center _____ <input type="checkbox"/> Other _____ <input type="checkbox"/> Other _____ <input type="checkbox"/> Other _____
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COURSE-SYLLABUS APPROVAL FORM (CSAF)**

APP 151

**2. Texts:**

Title: UA material supplied by local 190

Author: \_\_\_\_\_ Copyright Yr: \_\_\_\_\_

Publisher: \_\_\_\_\_ Est. Cost: \_\_\_\_\_

Title: \_\_\_\_\_

Author: \_\_\_\_\_ Copyright Yr: \_\_\_\_\_

Publisher: \_\_\_\_\_ Est. Cost: \_\_\_\_\_

Title: \_\_\_\_\_

Author: \_\_\_\_\_ Copyright Yr: \_\_\_\_\_

Publisher: \_\_\_\_\_ Est. Cost: \_\_\_\_\_

Title: \_\_\_\_\_

Author: \_\_\_\_\_ Copyright Yr: \_\_\_\_\_

Publisher: \_\_\_\_\_ Est. Cost: \_\_\_\_\_

Additional Texts:

**3. Supplies and/or Uniforms students will have to Acquire:** (e.g. calculators, uniforms, tools, etc.)

Descriptions	Cost Estimates
_____	_____
_____	_____
_____	_____

**4. Reference Materials that will be used:** (e.g. journals, books, manuals, maps, LRC reserves, etc.)

Title/Name	Location
_____	_____
_____	_____

**5. Computer Software that will be used:**

Title/Name	Location
_____	_____
_____	_____
_____	_____

**6. Audio/Visual Materials that will be used:** (e.g. films, video tapes, slides, audio tapes, CDs, etc.)

Title/Name	Location
_____	_____
_____	_____
_____	_____

**Course:** APP 151

**Title:** Medical Gas and the Code

**Course**

**Description:** This course will give students advanced training in installing medical gas systems in hospitals and labs. Students will gain hands-on experience in brazing and cleaning of systems installed. This course also provides advanced training in the Plumbing codes.

**Outline:**

**I. Medical Gas**

1. Installing medical gas systems
2. Material used for installing medical gas systems
3. Brazing of joints
4. Purging systems
5. Importance of using clean pipes and fittings
6. Purchasing of material
7. Hook up head walls
8. Instruments required to install medical gas systems
9. Valves, gages, alarms, and manifolds

**II. Code Requirements**

1. State exam requirements
2. Administration and enforcement of the codes
3. Terms listed in the plumbing codes
4. General regulations set forth in the codes
5. Approved materials, joints, and connections
6. Approved sanitary drainage systems
7. Indirect waste piping and special waste
8. Code requirements for storm drainage systems
9. Code requirements for vents and venting
10. Allowances for traps, interceptors, separators, and back water valves
11. Approved means of installing drainage pipe clean outs
12. Code requirements for the placement of plumbing fixtures
13. Approved types of hangers and supports
14. Requirements of health care plumbing
15. Code requirements for water supply and distribution
16. Code requirements for individual water supply
17. Inspection, testing and maintenance of systems installed
18. Code requirements for engineered plumbing systems