WASHTENAW COMMUNITY COLLEGE
COURSE-SYLLABUS APPROVAL FORM (CSAF)

APP 242

SECTION I. SUBMISSION INFORMATION

1. Course:
Discipline/No: APP 242 **Title:** Hydronic and Steam Heating **Start Term** W03

Division Code: HAT Department Code: CIND Org #: 14725 Don't publish: ☒ in College Catalog ☒ in Time Schedule ☒ on Web Page

2. Type of Approval:

☒ Full Approval
☐ Conditional Approval

☐ This proposal previously received conditional approval for the term: _____

3. Reason for Submission: This Course is being submitted for: (check all that apply)

☐ New Course Approval
☒ Five-year Syllabus Review ☐ No changes to course
☒ Major Change(s)
☐ Minor Change(s)*
☐ Reactivation of Inactive Course
☐ Inactivation

*If requesting a change to a course that has conditional approval, please submit a complete syllabus.

4. Change Information:

Minor Changes

☐ Course Discipline/Number (was _____)
☐ Course Title (was _____)
☐ Course Description
☐ Class Capacity (was: ____)
☐ Pre or Co-requisites
☐ Course Objectives (minor changes)
☐ Distribution of Contact Hours (contact hours were: lect: _____ lab _____ clin _____ other _____)
☐ Other

Major Changes

☒ Credit hours (credits were: 04)
☐ Change in Grading Method
☐ Total Contact Hours (total contact hours were: _____)
☐ Approval for offering an Honors Section
☐ Approval for offering Distance Learning Sections
☐ General Education Distribution Course: Add ☐ Remove ☐
☐ Pre or Co-requisites (that affect other departments)

5. Rationale Changes are are being made in response to data from Assessment: yes ☐ no ☐

Align credit hours with local 190 third party billing and payment requirements.

SECTION II. SIGNATURES

1. Department Review

Will any new resources be required? No, none anticipated ☒ Yes ☐
You must consult all departments that may be affected by this course. List departments contacted below and attach relevant documents.

Does the department support approval of this course? ☒ yes ☐ no

Print: Scott Klapper Faculty/Preparer Signature Scott Klapper Date: 10-15-02

Print: Scott Klapper Department Chair Signature Scott Klapper Date: 10-15-02

2. Division Review

Is this a curricular priority for your division? ☒ yes ☐ no (Comment _____)
What is the estimated enrollment? _____

Recommendation ☒ Yes ☐ No Dean's Signature Date 10/16/02

3. Curriculum Committee Review

Recommendation ☒ Yes ☐ No Curriculum Committee Chair's Signature Date 3.20.03

4. Vice President for Instruction and Student Services Approval

Approval ☒ Yes ☐ No Executive Vice President's Signature Date 3/24/03

ACS Code _____ **Entered in Banner** 4/27 **Entered in Access** 4/27 **Log File** 3.27 fr

Approved for General Education Area/Group _____ **Syllabus Date** 200301

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SECTION III. COURSE SYLLABUS
A. COURSE DETAILS

Discipline & No.: APP 242 **Title:** Hydronic and Steam Heating

1. Description:

As a result os this class the student gain the knowledge to be able to understand pressure and heat relationships. ~~As a result of this class~~ the student will gain the knowledge of hydronic heating components. ~~As a result of this class the student will gain the knowledge of~~ steam heating components.

2. Credit Hours: 03
If Variable credit, Give Range: ____ to ____ credits
If repeatable for credit, how many times ____

3. Contact Hours per Semester:
Lecture: 30
Lab: 30
Clinical:
Other:
Total Contact Hours: 60

4. Class Capacity: 24

5. Course Options:
☐ Distance learning
☐ Honors
☐ P/NP Grading

6. Prerequisite(s) and/or "("	Course	Min Grade	*Concurrent Enrollment	Test Name	Min. Score	")"	**Level I II
	APP 111		☐				☐☐
☐☐	APP 112		☐				☐☐
☐☐	APP 113		☐				☐☐
☐☐			☐				☐☐
☐☐			☐				☐☐
☐☐			☐				☐☐
☐☐			☐				☐☐
☐☐			☐				☐☐

Other Prerequisites

Consent Required ☐

7. Corequisites:

8. Course Purpose:
☒ Program Requirement
☐ General Education
☐ Program Support
☐ Basic Skills/Developmental
☐ Transfer
☐ Industry/Professional Dev
☐ Enrichment

If a program requirement, specify the program(s)
Local 190 apprenticeship program

Please send syllabus for Transfer evaluation to:
☐ EMU
☐ UM

Accepted for transfer:
☐ EMU
☐ UM

9. Terms Course will be offered:

Terms	**Session Length** (e.g. 15 weeks, 1st 7½ weeks, etc.)	**Day**	**Eve**	**Even years only**	**Odd years only**
☒ Fall	15 weeks	☐	☒	☐	☐
☒ Winter	15 weeks	☐	☒	☐	☐
☒ Spr/Summer	15 weeks	☐	☒	☐	☐

B. MAJOR INSTRUCTIONAL UNITS

1. Hydronic and Steam Heating

C. INSTRUCTIONAL OBJECTIVES

Unit #1 Hydronic and Steam

The student will:

1. Describe pressure and heat relationships
2. Describe hydronic heating components- pumps, zone valves, proper piping, water balancing, control valves, expansion tanks, pressure reducing valves, triple duty valves, relief valves, chemical treatment
3. Describe steam heating components- steam generators and boilers, steam boiler controls, team piping, team traps, condensate piping, condensate receivers, the importance of blowing down, steam controls valves, steam heat exchangers, vacuum breaker, vacuum condensate return systems, steam safety, Hartford loops, high and low pressure steam systems, steam pressure reducing station, shot feeders, piping supports, expansion compensation, temperature sensing, coil piping, air venting, static loop pressures, air separators, and heat transfer fluids

D. INSTRUCTIONAL METHODS, EVALUATION CRITERIA, AND ASSESSMENT

1. Instructional Methods:

☒ Lecture/Discussion	☐ Performances
☐ Clinical Instruction	☐ Group Critiques
☒ Laboratory Assignments	☐ Field Trips
☐ Internet Assignments	☐ Telecourse
☐ Computer Simulations	☐ ITV Course
☐ On-Site Work Experience	☐ Self-Paced Instruction
☐ Team Assignments	☐ Other
☐ Demonstrations	☐ Other

2. Evaluation Criteria:

☒ Attendance	☒ Quizzes
☒ Class Discussion	☒ Tests
☒ Papers	☐ Midterm
☐ Portfolios	☒ Final Exam
☐ Projects	☐ Presentations
☐ Reports	☐ Individual Performance
☐ Clinical Assignments	☐ Group/Team Performance
☒ Home Work	☐ Other

3. Assessment of Student Achievement:

☐ Departmental Exam	☐ Pre-test/Post-test
☐ Follow-on Tracking	☐ Simulations
☐ Standardized Test	☐ Comprehensive Project
☐ Portfolio Assessment	☐ Other

F. EQUIPMENT, FACILITIES, TEXTS, MATERIALS, AND SUPPLIES

1. Special Equipment/Facilities :

☒ Lab equipment	☐ ITV Classroom
☒ Computer Lab	☐ Off-Campus Sites
☒ CD ROM's	☐ Testing Center
☒ Data Projector/Screen	☒ Other Supplied by Local 190
☒ VCR	☐ Other
☒ TV Monitor	☐ Other

2. Texts:

Title: UA materials supplied by Local 190
Author: United Association 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**