WASHTENAW COMMUNITY COLLEGE
COURSE-SYLLABUS APPROVAL FORM (CSAF)

APP 221

SECTION I. SUBMISSION INFORMATION

1. Course:
Discipline/No: APP 221 **Title:** Theory of Electricity **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: [illegible]

Print: Scott Klapper Department Chair Signature Scott Klapper Date: [illegible]

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 3/19/03

3. Curriculum Committee Review

Recommendation ☒ Yes ☐ No Ruth A. Hartley 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 3/26/03

ACS Code _____ **Entered in Banner** 4/3/03 **Entered in Access** 4/3/03 **Log File** 3/21

Approved for General Education Area/Group _____ **Syllabus Date** 2003

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SECTION III. COURSE SYLLABUS
A. COURSE DETAILS

Discipline & No.: APP 221 **Title:** Theory of Electricity

1. **Description:**

This course will enable students to understand what electricity is and how it works. This course will enable students to understand the study of matter and atoms. This course will instruct students on electrical fields. This course will instruct student on conductors, insulators, piezoelectricity, photo electricity, thermoelectricity, and electricity by chemical action. This course will enable students to understand magnetism and the difference in potential, current and resistance.

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		☐				☐☐
☐☐				☐				☐☐
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☐☐				☐				☐☐
☐☐				☐				☐☐
☐☐				☐				☐☐

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. Theory of Electricity

C. INSTRUCTIONAL OBJECTIVES

Unit #1 Theory of Electricity

The student will:

1. Describe what electricity is and how it works
2. Describe the study of matter and atoms
3. Describe electrical fields
4. Describe conductors and insulators
5. Describe piezoelectricity, photoelectricity, thermoelectricity, and electricity by chemical action
6. Describe magnetism
7. Describe the difference in pitential, current, and resistance
8. Describe Ohms law
9. Describe watts, amps, resistors, and fuses
10. Describe series and parrell circuits
11. Describe Electromagnetism
12. Describe alternating current
13. Describe direct current
14. Describe the inductance capcitance
15. Demonstrate the use and care of multimeters
16. Perform lab work on actual electrical circuits
17. Describe how electricity is used in the dual fields
18. Describe electrical safety (basic)
19. Describe how to read basic electrical wiring diagrams
20. Differentiate between single phase and 3 phase
21. Describe operation of transformers
22. Describe Hal electric component

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**