Course Discipline Code & No: _EWA250_   Title:_Technical Mathematics_____ Effective Term _Fall 2009_

Division Code: **YCT**   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.

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**_   Signature _W. Welch_   Date: _2-2-09_
         Faculty/Preparer

Print: _____   Signature _____   Date: _____
         Department Chair

Division Review by Dean
☐ Request for conditional approval

Recommendation ☐ Yes ☐ No _____D. Welch_____   _2-2-09_
                    Dean's/Administrator's Signature   Date

Curriculum Committee Review
Recommendation _____
☐ Tabled   ☒ Yes ☐ No _Lisa Veasey_____   _3/18/09_
                  Curriculum Committee Chair's Signature   Date

Vice President for Instruction Approval
_____Roger M. Palay._____   _3/19/09_
         Vice President's Signature   Date

Approval ☒ Yes ☐ No ☐ Conditional

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

Office of Curriculum & Assessment   http://www.wccnet.edu/departments/curriculum/
Approved by Assessment Committee 10/06

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

Course:	Course title:
EWA250	Technical Mathematics

Credit hours: 3	Contact hours per semester:	Are lectures, labs, or clinicals offered as separate sections?	Grading options:
If variable credit, give range: _____ _ to _____ credits	Student Instructor Lecture: 45 45 Lab: ___ ___ Clinical: ___ ___ Practicum: ___ ___ Other: ___ ___ **Totals:** 45 45	☐ Yes - lectures, labs, or clinicals are offered in separate sections ☐ No - lectures, labs, or clinicals are offered in the same section	☐ P/NP (limited to clinical & practical) ☐ S/U (for courses numbered below 100) ☒ Letter grades

Prerequisites. Select one:

☒ College-level Reading & Writing   ☐ Reduced Reading/Writing Scores   ☐ No Basic Skills Prerequisite

                                      (Add information at Level I 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 a also during the same semester)
☐ and ☐ or _____	___	_____	___	☐	_____
☐ 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   ☐ and ☐ or Other (please specify):

                            Program: IBEW 252 Apprenticeship   _____

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 _____   ☐ _____ as _____

☐ U of M as _____   ☐ _____ as _____

☐ _____ as _____ _____   ☐ _____ as _____

Course	Course title
EWA250	Technical Mathematics

Course description	Students will learn basic principles of applied math using Ohm's Law. Students learn to solve circuitry problems, wire resistance, voltage drops, AC circuit parameters, power factor, and phase angle.
State the purpose and content of the course. Please limit to 500 characters.	This course is taught at the IBEW local training center and is only open to apprentices accepted into a program.

Course outcomes	Outcomes	Assessment
List skills and knowledge students will have after taking the course.	(applicable in all sections)	Methods for determining course effectiveness
Assessment method Indicate how student achievement in each outcome will be assessed to determine student achievement for purposes of course improvement.	After successfully completing this course, the student will be able to: 1. Explain basic algebra and trigonometry for solving applied problems 2. Convert between numbering systems 3. Apply basic trigonometry to explain conduit bending fundamentals 4. Explain how to convert from decimal to binary, octal, and hexadecimal systems used in digital logic circuits	This course is assessed externally by the local's Joint Apprenticeship Training Committee (JATC), consisting of NECA representatives (industry) and IBEW members. The local receives feedback on needed technical updates and apprentice skill performance.

Course Objectives	Objectives	Evaluation
Indicate the objectives that support the course outcomes given above.	(applicable in all sections)	Methods for determining level of student performance of objectives
Course Evaluations Indicate how instructors will determine the degree to which each objective is met for each student.	Objectives and methods of evaluation follow the curriculum set out by the National Joint Apprentice Training Committee (NJATC).	

List all new resources needed for course, including library materials.
All resources for the pro gram are in place at the Local 252 Training Center.

Student Materials:

List examples of types	All books and supplies provided through the IBEW Local 252 Training Center.	Estimated costs
Texts Supplemental reading Supplies Uniforms Equipment Tools Software		$ 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.	☐ Off-Campus Sites
☐ Level I classroom	☐ Testing Center
Permanent screen & overhead projector	☐ Computer workstations/lab
☐ Level II classroom	☐ ITV
Level I equipment plus TV/VCR	☐ TV/VCR
☐ Level III classroom	☐ Data projector/computer
Level II equipment plus data projector, computer, faculty workstation	☒ Other <u>Local 252 Training Center</u>

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. Explain basic algebra and trigonometry for solving applied problems 2. Convert between numbering systems 3. Apply basic trigonometry to explain conduit bending fundamentals 4. Explain how to convert from decimal to binary, octal, and hexadecimal systems used in digital logic circuits.	Contractors (employer) provide paper feedback forms for apprentice skill performance reviews. JATC contractor members provide specifications detailing technical updates.	Fall 2011 and every three years thereafter.	All	All

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.

   Apprentice feedback forms filled out by the employing contractor.

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

   The standard of success is set by the local JATC.

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

   The data is analyzed by the JATC as a committee.

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

   Results are initially shared with the training coordinator for the local. The training coordinator then works with appropriate instructor staff to make needed changes.