Fond du Lac Tribal and Community College
COURSE OUTLINE FORM

Updated 9/23/14

Please return this form to the college vice president of academic affairs and the chairperson of the Academic Affairs and Standards Council (AASC)

1. Prepared by: __________________________________________________

2. Date submitted: ______________________________________________

3. Date approved: 1/21/2004 Date revised: 9/23/2014

4. **Department/discipline:** Electric Utility Technicians

5. **Department(s) endorsement(s):** __________________________________________
   (Signatures of the person(s) providing the endorsement are required.)

6. **Course Title:** Transmission and Distribution and Metering of Power
   Abbreviated course title (25 characters or less):

7. **Course Designator:** EUT

8. **Course Level:** 1030

9. **Number of Credits:** Lecture: 3 Lab: 1

10. **Control Number (on site):** 20
    Control Number (online): 0

11. **Catalog/Course description:**

    In this course, the student will be introduced to transmission, distribution, and metering systems used in the electric power industry. The electrical equipment, the theory of operations, system behavior, and other topics will be introduced through hands-on learning activities so that the student will acquire knowledge and skills to be able to enter into industry apprenticeship programs.

12. **Course prerequisite(s) or co-requisite(s):**
    Prerequisite(s): EUT 1020 Basic Electricity & EUT 1021 AC Electricity for Electric Utility Technicians
    Co-requisite: None

13. **Course Materials (Recommended course materials and resources. List all that apply, e.g. textbooks, workbooks, study guides, lab manuals, videos, guest lecturers).**

    1. Texts are being selected by instructor. If applicable. Texts to be determined
yearly on the basis of content and availability and will be listed on the syllabus.
2. Study guides and lab manuals will be supplied to the student.
   Specialized lab equipment and lab facilities will be provided to the student.

14. **Course Content** (Provide an outline of major topics covered in course)

1. Three-phase AC Power Systems
2. Electrical Safety
3. Transformers, Regulators, and Capacitors
4. Transmission and Distribution of Power
5. Power System Dynamics
6. Reclosures, Protective Equipment and Fault Analysis
7. Metering
8. Schematics

15. **Learning Goals, Outcomes, and Assessment**
    At FDLTCC we have 4 Competencies Across the Curriculum (CAC) areas. They are as follows:

    A. Information Literacy (the ability to use print and/or non-print tools effectively for the discovery, acquisition, and evaluation of information)

    B. Ability to Communicate (the ability to listen, read, comprehend, and/or deliver information in a variety of formats.)

    C. Problem Solving (the ability to conceptualize, apply, analyze, synthesize, and/or evaluate information to formulate and solve problems.)

    D. Culture (knowledge of Anishinaabe traditions and culture, knowledge of one’s own traditions and culture, knowledge of others’ traditions and cultures, culture of work, culture of academic disciplines and/or respect for global diversity.)

    *Course learning outcomes will fulfill the identified competencies:*

    **Course Learning Outcomes:**

    Upon completion of this course, students will be able to:

    1. Solve problems of phase and impedance (C)
    2. Connect transformer in a 3 phase systems (C)
    3. Connect metering systems in a 3 phase systems (C)
    4. Read schematic diagrams of power systems (C)
16. **Minnesota Transfer Curriculum (MnTC):** If this course fulfills an MnTC goal area, state the goal area and list the goals and outcomes below:

See [www.mntransfer.org](http://www.mntransfer.org)

Goal Area(s): **N/A**

Goal and Outcomes:
- Goal: N/A
- Outcome:
Complete the following only if you are proposing a new course:

1. Planned pattern of offering:
2. Rationale for course: If this course is an ADDITION or replacement to current offerings, add a detailed explanation of the necessity for the change.
3. Does this course overlap with any course(s) offered at FDLTCC? If so, justify such duplication or indicate other adjustments to be made. Obtain signatures from affected departments.
4. What is the apparent or expressed student need for this course?
5. If this course includes a Native American or specifically Anishinaabe component list campus resource person/s—i.e., campus cultural/spiritual resource person/s and, if necessary, elder/s—consulted and include specific comments and written responses as appropriate.
6. Are there any additional licensing/certification requirements involved?
   a. Provide a copy of the required licensing/certification standards to the AASC chair and to the vice president of academic affairs.
   b. Attach the required documentation to show course meets required licensing/certification standards.
7. What types of tutoring will be made available through the CAA to students taking this course?
8. How will the course be evaluated?
9. Special resources—e.g. faculty, space, equipment, library, etc
10. Special course fees:
11. Relationship of course to the college mission statement and goals.
12. Relationship of course to the department’s mission statement and goals.
13. Relationship of course to colleges/university offerings (include tribal colleges).

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<th>College or University</th>
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<th>Credits Awarded</th>
<th>General Education</th>
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