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: 1/28/2011 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: Residential Building Construction Techniques
   Abbreviated course title (25 characters or less):
7. Course Designator: EUT
8. Course Level: 1056
9. Number of Credits: Lecture: 2 Lab: 1
10. Control Number (on site): 35
    Control Number (online): 0
11. Catalog/Course description:
    This course will cover basic home construction methods and techniques, as they relate to a building's energy performance. This course will provide the basic knowledge required in understanding building methods that apply to the Home energy Audit field as well as better housing for healthier living environments.
12. Course prerequisite(s) or co-requisite(s):
    Prerequisite(s): None
    Co-requisite: MATH 0020 Beginning Algebra or consent of instructor
13. Course Materials (Recommended course materials and resources. List all that apply, e.g. textbooks, workbooks, study guides, lab manuals, videos, guest lecturers):
    2. Other textbooks, workbooks, guides, lab manuals, videos, guest lecturers, will be on the syllabus if applicable.
14. **Course Content** (Provide an outline of major topics covered in course)

1. Review of Useful Mathematics Concepts  
   a. Measurement methods  
   b. Area and volume calculations  
   c. Electrical units  
   d. Scientific notation  
   e. Fractions

2. Energy Basics  
   a. Understanding heat transfer  
   b. Defining the thermal boundary  
   c. Air barriers  
   d. Energy and moisture

3. Foundations  
   a. Slab on grade  
   b. Foundation wall designs  
   c. Insulation methods  
   d. Moisture control  
   e. Thermal breaks

4. Framing Methods  
   a. Post and Beam  
   b. Balloon framing  
   c. Stick framing  
   d. SIP Panels

5. Roofing Designs  
   a. Rafter  
   b. Truss designs  
   c. Girders and Purlins  
   d. Roof decks  
   e. Material selection

6. Windows and Doors  
   a. Types  
   b. U values  
   c. Transmission  
   d. Installation and moisture control

7. Insulation  
   a. Types  
   b. Installation methods  
   c. R values  
   d. Moisture barriers  
   e. below grade challenges

8. Sheeting and Siding  
   a. Types  
   b. Installation methods
c. Drainage plains
d. Air barriers

9. Utilities
   a. Heating systems
   b. Air conditioning systems
   c. Gas supply
   d. Water and Wells
   e. Electrical service

10. Safety
    a. Construction safety methods
    b. Personal Protection Equipment
    c. Fall prevention
    d. Fire and CO alarms
    e. Electrical Safety

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. Demonstrate proficient in Use of computer based construction aids.
2. Demonstrate the terminology and theory of home construction.
3. Demonstrate competency in reading technical text.
4. Demonstrate the ability to solve complex energy calculations
5. Show ability to solve problems in Home design and applications.
6. Utilize safety equipment and safety practices.
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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