# Course Material Submission Form

**OAN Match Definition Form**

**Today’s Date:** 11/19/2007

<table>
<thead>
<tr>
<th>Use this table to specify institutional data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>College/University:</strong> Miami University</td>
</tr>
<tr>
<td>Name and title of individual submitting on behalf of the college/university</td>
</tr>
<tr>
<td><strong>Name:</strong> Carol Jones</td>
</tr>
<tr>
<td><strong>Title:</strong> Assistant Registrar</td>
</tr>
<tr>
<td><strong>Address:</strong> 301 S Campus Ave Rm 110</td>
</tr>
<tr>
<td><strong>Email:</strong> <a href="mailto:Jonescm3@muohio.edu">Jonescm3@muohio.edu</a></td>
</tr>
<tr>
<td><strong>Phone:</strong> 513.529.8707</td>
</tr>
<tr>
<td><strong>Fax:</strong> 513.529.8755</td>
</tr>
</tbody>
</table>

## Indicate the reason for this submission:

- [x] New Course Match
- [ ] Course Renumbering Only (do not use for calendar changes)
- [ ] Revised Materials - Faculty review panel requested clarification
- [ ] Revised Materials - Institution submitting additional information
- [ ] Revised Materials - Course content revised by institution, including situations of both content and credit hour change
- [ ] Revised Materials – Other

**Describe specific revisions being made for “Revised Materials” submissions:**

**Institutional Notes to Faculty Panel (the institution is encouraged to add any additional clarifications for this submission):**
<table>
<thead>
<tr>
<th>Course or Courses being matched to or currently matched to the OAN listed above. (Course Numbers must be exactly what will appear on a student's transcript.)</th>
<th>Course Number</th>
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<tbody>
<tr>
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<td>10.</td>
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</table>
### Table 2 - Use this table to submit course materials for the first time or to revise previously submitted course materials. You must submit each course in a separate form, repeating the match definition information in Table 1 above for each form submitted.

<table>
<thead>
<tr>
<th>Course Number. (Course Numbers must be exactly what will appear on a student’s transcript.)</th>
<th>ENT 192</th>
<th>Course Title: Circuit Analysis I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours (be sure that the hours for this course matches the hours in the OAN.)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>☑ Semester Hours</td>
<td></td>
<td>Quarter Hours</td>
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</tbody>
</table>

| Total Credit Hours | 3 | Lecture Hours | 3 | Laboratory Hours (if applicable) | 3 |

| Course Placement in Major: Major Requirement | Major Elective | Major Not Offered | Other |

| Pre-Requisite Course work (if applicable) (Be sure this is consistent with the OAN definition): | See catalog/course description |

### Catalog/Course Description:
192 Circuit Analysis I (3) Detailed study of analog a-c and d-c electric circuits and related bilateral devices. Conventional circuit analysis techniques utilized. Prerequisite: two years of high school algebra including trigonometry. Corequisite: MTH 125. 2 Lec. 1 Lab. (Electrical technology)

### Texts/Outside Readings/Ancillary Materials (Be sure that the text meets performance expectations):
Title: (1) Introductory Circuit Analysis (2) Experiments in Circuit Analysis
Author: (1) Robert L. Boylestad (2) Boylestad and Kousourou
Publish Date: (1) 11th edition
Publisher:

Other texts:

### Course Objectives and/or Plan of Work:
(Provide a clear indication of how the course objectives align with the matched OAN’s learning outcomes. This will facilitate the faculty panel course review process.)

**COURSE OUTCOMES:**
- Demonstrate knowledge of basic electrical circuits
- Knowledge of electrical engineering safety
- The ability to effectively use electrical/electronic measurement tools
- The ability to apply troubleshooting techniques in the identification and correction of faults in electric circuits
- Ability to conduct experiments, obtain data and make improvements in designs
- Proficiency in the concepts of electrical and computer engineering technology
- A commitment to quality, timeliness, and continuous improvement

### Description of Assessment and/or Evaluation of Student Learning (The assessment plan)
needs to be appropriate for the expected rigor of the course).

Master Syllabi and Working Syllabi (if both are used):

MIAMI UNIVERSITY
SCHOOL OF ENGINEERING AND APPLIED SCIENCE
DEPARTMENT OF ENGINEERING TECHNOLOGY

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ENT - 192</td>
<td>Circuit Analysis-1</td>
<td>3</td>
</tr>
</tbody>
</table>

Course hours

DESCRIPTION:
Detailed study of analog and dc electric circuits and related bilateral devices. Conventional and computer circuit analysis will be utilized.

PREREQUISITES: Two years of high school algebra including trigonometry.

TEXT MATERIAL:
Robert L. Boylestad, Introductory Circuit Analysis, 11th edition
Boylestad and Kousourou, Experiments in Circuit Analysis

COURSE OBJECTIVE:
The student will develop an understanding of the principals and concepts of electricity, current flow; energy, power, work, transient effects, ac and dc circuit analysis, and analysis by computer simulation.

COURSE OUTCOMES:
- Demonstrate knowledge of basic electrical circuits
- Knowledge of electrical engineering safety
- The ability to effectively use electrical/electronic measurement tools
- The ability to apply troubleshooting techniques in the identification and correction of faults in electric circuits
- Ability to conduct experiments, obtain data and make improvements in designs
- Proficiency in the concepts of electrical and computer engineering technology
- A commitment to quality, timeliness, and continuous improvement

OHIO TRANSFER MODULE OET 001 TOPICS INCLUDED:
1. Electrical components and quantities
2. Definitions of voltage, current, electrical resistance and power
3. Ohm’s law, electrical energy and power, Kirchhoff’s Laws
4. Series circuit analysis
5. Parallel circuit analysis
6. Series-parallel circuit analysis
7. Circuit theorems (superposition, Thevenin’s and Norton’s theorems)
8. Mesh and/or nodal analysis techniques
9. Properties of capacitors and their behavior under DC conditions
10. Properties of inductors and their behavior under DC conditions

MEETING PLACE AND TIME:
Two sessions per week for 1:50 Minutes.

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COURSE SCHEDULE AND TOPICS:
Week  Date  Topic  Homework
1  1  Chapter 1  Introduction  1.6, 1.7
Chapter 2  Current and Voltage  13,15,16,25
2,3,5, 9,11,16,22
1  Lab 1:  TINA
2  Lab 2:  Handout:  Measuring voltage and current
3  Chapter 3  Resistance  1,3,6,10,13,40,45,52
4  Switch day - No class
3  Lab-3:  dc-2:  Resistors and Color Code
(Probs. 1 & 2 only)
4  Chapter 4  Ohm’s Law  Power and Energy
Quiz 11,2,4,6,7,11,22,24,32,39, 49,51,52,41,42
4  Lab 4:  dc-3:  Ohms Law (Excl. Part 4 & Probs.)
5  Chapter 5  Series dc Circuits  1,5,7,9,10,18,19,21,22,
23,24,26,33
5  Lab 5:  dc-4:  Series Resistance
6  Chapter 6  Parallel dc Circuits, Troubleshooting
Quiz 2  1,2,3,4,8,9,10,13,15,16,
25,27,31,35,43,45
6  Lab 6:  dc-6:  Parallel Resistance Using TINA
7  Chapter 7  Series-Parallel Circuits  1,2,3,9,10,13,15,25,26,27,
31,35
7  Lab 7:  dc-9:  Series-parallel dc Circuits
8  Chapter 10.1-10.6  Capacitors  2,4,7,10,15
8  Mid-term Exam
9  Chapter 10.7-10.13  Capacitive Transients  21,23,24,36,37,51,53,54
9  Lab 8:  dc-14:  Capacitors (See handout)
10  Chapter 12  Magnetic Circuits
Quiz 3  3,5,7,9,14
10  Lab 9:  Handout:  Magnetic Circuits
11  Chapter 11  Inductors & Transients  7,8,9,10,12,13,35,41
11  Lab 10:  dc-15:  RL and RLC Circuits (Excl. Prob. 2)
12  Chapter 13  Sinusoidal ac
Quiz 41,2,3,4,8,10,11,12,15,17,
26,35,43,47
12  Lab 11:  ac-2:  The Oscilloscope
13  Chapter 14.1 - 14.5  Basic Elements  Frequency Resp.  1,3,5,8,14,17
13  Lab 12:  Build and test a dc power supply
14  Chapter 14.6 - 14.12  Complex math, Phasors
Quiz 5  31,33,39,40,44,45,48
14  Thanksgiving - No class
15  Chapter 15.1 - 15.6  Series ac Circuits  1,3,4,5,10,15,25,26,28
15  Lab 13 ac-3:  RLC Components
16  Review for final exam.  Evaluation
16  Lab Exam
17  Final Exam

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Seifried 10/29/07

Additional Documentation:

OBR Use

<table>
<thead>
<tr>
<th>Approved-Effective Date</th>
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<tbody>
<tr>
<td>Pending (i.e. Additional Information Requested)</td>
<td></td>
</tr>
<tr>
<td>Disapproved</td>
<td></td>
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<tr>
<td>Today’s Date</td>
<td></td>
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