Course Material Submission Form
OAN Match Definition Form

Today’s Date: 1/29/08

Use this table to specify institutional data

<table>
<thead>
<tr>
<th>College/University: Terra State Community College</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name and title of individual submitting on behalf of the college/university</td>
</tr>
<tr>
<td>Name: Lyn Sullivan</td>
</tr>
<tr>
<td>Title: Director, Institutional Research</td>
</tr>
<tr>
<td>Address: 2830 Napoleon Rd. Fremont, OH 43420</td>
</tr>
<tr>
<td>Email: <a href="mailto:lsullivan@terra.edu">lsullivan@terra.edu</a></td>
</tr>
<tr>
<td>Phone: 419-559-2391</td>
</tr>
<tr>
<td>Fax: 419-334-3719</td>
</tr>
</tbody>
</table>

Indicate the reason for this submission:

☑ 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 1 – Use this table to describe the course match for which materials are being submitted for the first time or revised.

| Proposed effective year and term of match (Final effective date will depend on actual approval of match by faculty panel. Effective Year and Term is the first term in which students taking the course will receive matching credit.) |
| Semester institutions complete this row: |
| 2008 Academic Year ☑ Summer ☐ Autumn ☐ Spring |
| Quarter institutions complete this row: |
| 20 ☐ Academic Year ☐ Summer ☐ Autumn ☐ Winter ☐ Spring |
| Ohio Articulation | OET001 |
Number (OAN)
(Use a separate form for each OAN):

Number of courses in the match:
1
(up to 10)

Current status of match:
☐ First time submission
☐ Approved
☐ Error
☐ Error with enrollment
☐ Submitted
☐ Resubmitted
☐ Disapproved
☐ Pending
☐ Not submitted

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.):

<table>
<thead>
<tr>
<th>Course Number</th>
<th>1.</th>
<th>EET1700</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td></td>
<td></td>
</tr>
</tbody>
</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>EET1700</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Title:</td>
<td>DC Circuits</td>
</tr>
<tr>
<td>Semester Hours (be sure that the hours for this course matches the hours in the OAN.)</td>
<td></td>
</tr>
<tr>
<td>☐ Major Requirement</td>
<td></td>
</tr>
<tr>
<td>☐ Major Elective</td>
<td></td>
</tr>
<tr>
<td>☐ Major Not Offered</td>
<td></td>
</tr>
<tr>
<td>☐ Other</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lecture Hours</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory Hours (if applicable)</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Credit Hours</th>
<th>3</th>
</tr>
</thead>
</table>

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):
PRE/CO: Co-requisite(s):
MTH 2310 College Algebra

Catalog/Course Description: EET1700: In this course, the student will study the principles of Direct Current Circuits starting with electrical terms, components and quantities. The student will develop a thorough understanding of Ohm’s law, series circuits, parallel circuits, series-parallel circuits and Kirchoff’s current and voltage laws. They will then advance their circuit analysis technique by using Superposition, Thevenin’s, and Norton’s theorems and also Mesh and Nodal analysis methods. They will also study the behavior of inductors and capacitors under DC conditions.
Jumper Leads, Terra Bookstore  
Safety Glasses  
Calculator with scientific notation, reciprocal, and trigonometric functions

**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.)

**Learning Outcomes:**

**General Education**
- Problem Solving
- Communicating
- Using Technology
- Number Sensing
- Listening

**Technical (TAG Competencies)**
- 1. Understand various electrical components and quantities
- 2. Understand the definitions of voltage, current, electrical resistance and power.
- 3. Understand and apply Ohm’s law, Kirchoff’s voltage and current laws.
- 4. Demonstrate series circuit analysis.
- 5. Demonstrate parallel circuit analysis.
- 6. Demonstrate series-parallel circuit analysis.
- 7. Understand and apply Superposition, Thevenin’s and Norton’s theorems.
- 8. Understand and apply Mesh and Nodal analysis techniques.
- 9. Understand the behavior of capacitors and inductors under DC conditions.

<table>
<thead>
<tr>
<th>Week</th>
<th>Activity</th>
</tr>
</thead>
</table>
| 1    | (TAG 1, 2)  
Course Introduction, Syllabus Overview  
Electrical Components and Measuring Instruments  
Electrical and Magnetic Units  
Metric Prefixes  
Metric Unit Conversion  
Atomic Structure  
Electrical Charge  
Voltage  
Current  
Resistance |
| 2    | (TAG 2, 3)  
The Electric Circuit  
Basic Circuit Measurements  
Ohm’s Law |
Calculating Current
Calculating Voltage
Calculating Resistance
The Relationship of Current, Voltage, Resistance
Energy and Power
Power in an Electric Circuit
Resistor Power Rating

3
(TAG 4)
Energy conversion and Voltage Drop in Resistance
Power Supplies
Resistors in Series
Current in a Series Circuit
Total Series Resistance
Ohm’s Law in a Series Circuit

4
(TAG 3,4)
Voltage Source in a Series Circuit
Kirchoff’s Voltage Law
Voltage Dividers
Power in a Series
Circuit Ground
Written Test 1

5
(TAG 5)
Lab Test 1
Resistors in Parallel
Voltage Drop in Parallel Circuits
Kirchoff’s Current Law
Total Parallel Resistance

6
(TAG 5)
Ohm’s Law in a Parallel Circuit
Current Sources in Parallel
Current Dividers
Power in Parallel Circuits

7
(TAG 6)
Written Test 2
Identifying Series-Parallel Relationship
Analysis of Series-Parallel Circuits

8
(TAG 6)
Analysis of Series-Parallel Circuits, cont.
Voltage Dividers with Resistive Loads
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>
| 9 | (TAG 4, 5, 6) | Loading Effect of a Voltmeter  
The Wheatstone Bridge  
Lab Test 2 |
| 10 | (TAG 7) | Superposition Theorem  
Thevenin’s Theorem  
Norton’s Theorem |
| 11 | (TAG 8) | Branch Current Method  
Determinants  
Solving Simultaneous Equations Using a Calculator |
| 12 | (TAG 8) | Mesh Current Method  
Node Voltage Method |
| 13 | (TAG 9) | Written Test 3  
The Basic Capacitor  
Types of Capacitors |
| 14 | (TAG 9) | Series Capacitors  
Parallel Capacitors  
Capacitors in DC Circuits  
The Basic Inductor |
| 15 | (TAG 9) | Types of Capacitors  
Series Inductors  
Parallel Inductors  
Inductors in DC Circuits |
| 16 |   | Final Exam |

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

**Grading:**

- Written Test 1 = 14 2/7 %
- Written Test 2 = 14 2/7 %
- Written Test 3 = 14 2/7 %
- Lab Test 1 = 14 2/7 %
- Lab Test 2 = 14 2/7 %
Quiz Average = 14 2/7 %
Final = 14 2/7 %
Total = 100 %

90%-100% = A
80%-89% = B
70%-79% = C
60%-69% = D
0%-59% = F

**Working Syllabi (if both are used):**

Course Syllabus

EET-1700 DC CIRCUITS

Engineering and Industrial Technologies Division

******************************************************************************

Class Days: 
Location: Classroom: 
Contact Hours: 4
Contact Hours: 4

Credit Hours: 3

Lab Hours: 2
Lecture Hours: 2

******************************************************************************

Instructor: Denny Setzler
Phone: 419-559-2443
Office Location: E-215D
Email Address: dsetzler@terra.edu
Office Hours: TBA

Division Office/Location: E107
Division Fax: (419) 334-2300
Full-time Contact Person: Denny Setzler
Phone(s): (419) 559-2443

******************************************************************************

Course Description:
In this course, the student will study the principles of Direct Current Circuits starting with electrical terms, components and quantities. The student will develop a thorough understanding of Ohm’s law, series circuits, parallel circuits, series-parallel circuits and Kirchoff’s current and voltage laws. They will then advance their circuit analysis technique by using Superposition, Thevenin’s, and Norton’s theorems and also Mesh and Nodal analysis methods. They will also study the behavior of inductors and capacitors under DC conditions.

Prerequisite(s):
None

Co-requisite(s):
MTH 2310 College Algebra

Required Texts, Supplies and Equipment:
Jumper Leads, Terra Bookstore
Safety Glasses
Calculator with scientific notation, reciprocal, and trigonometric functions

Grading:
Written Test 1 = 14 2/7 %
Written Test 2 = 14 2/7 %
Written Test 3 = 14 2/7 %
Lab Test 1 = 14 2/7 %
Lab Test 2 = 14 2/7 %
Quiz Average = 14 2/7 %
Final = 14 2/7 %
Total = 100 %

90%-100% = A
80%-89% = B
70%-79% = C
60%-69% = D
0%-59% = F

Learning Outcomes:
General Education
- Problem Solving
- Communicating
- Using Technology
- Number Sensing
- Listening

Technical (TAG Competencies)
- 1. Understand various electrical components and quantities
- 2. Understand the definitions of voltage, current, electrical resistance and power.
- 3. Understand and apply Ohm’s law, Kirchoff’s voltage and current laws.
- 4. Demonstrate series circuit analysis.
- 5. Demonstrate parallel circuit analysis.
- 6. Demonstrate series-parallel circuit analysis.
- 7. Understand and apply Superposition, Thevenin’s and Norton’s theorems.
- 8. Understand and apply Mesh and Nodal analysis techniques.
- 9. Understand the behavior of capacitors and inductors under DC conditions.

Assessment of Student Learning:
This course may include a project that is one of several that will be used by faculty to assess student academic performance in the program. A panel of faculty will review all (projects or whatever assessment activity you are doing), then assess and summarize the academic performance of students at this point in the program. The results of this assessment will be shared among the department faculty, used to identify needed changes or improvements, and submitted to the Student Academic Assessment Committee as part of the college’s overall student academic assessment effort.
Assessment Project and Measurement in course (if any): none

Plan of Work:

<table>
<thead>
<tr>
<th>Week</th>
<th>Activity</th>
</tr>
</thead>
</table>
| 9    | (TAG 1, 2)  
Course Introduction, Syllabus Overview  
Electrical Components and Measuring Instruments  
Electrical and Magnetic Units  
Metric Prefixes  
Metric Unit Conversion  
Atomic Structure  
Electrical Charge  
Voltage  
Current  
Resistance |
| 10   | (TAG 2, 3)  
The Electric Circuit  
Basic Circuit Measurements  
Ohm’s Law  
Calculating Current  
Calculating Voltage  
Calculating Resistance  
The Relationship of Current, Voltage, Resistance  
Energy and Power  
Power in an Electric Circuit  
Resistor Power Rating |
| 11   | (TAG 4)  
Energy conversion and Voltage Drop in Resistance  
Power Supplies  
Resistors in Series  
Current in a Series Circuit  
Total Series Resistance  
Ohm’s Law in a Series Circuit |
| 12   | (TAG 3,4)  
Voltage Source in a Series Circuit  
Kirchoff’s Voltage Law  
Voltage Dividers  
Power in a Series  
Circuit Ground  
Written Test 1 |
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>(TAG 5)</td>
</tr>
<tr>
<td></td>
<td>Lab Test 1</td>
</tr>
<tr>
<td></td>
<td>Resistors in Parallel</td>
</tr>
<tr>
<td></td>
<td>Voltage Drop in Parallel Circuits</td>
</tr>
<tr>
<td></td>
<td>Kirchoff’s Current Law</td>
</tr>
<tr>
<td></td>
<td>Total Parallel Resistance</td>
</tr>
<tr>
<td>14</td>
<td>(TAG 5)</td>
</tr>
<tr>
<td></td>
<td>Ohm’s Law in a Parallel Circuit</td>
</tr>
<tr>
<td></td>
<td>Current Sources in Parallel</td>
</tr>
<tr>
<td></td>
<td>Current Dividers</td>
</tr>
<tr>
<td></td>
<td>Power in Parallel Circuits</td>
</tr>
<tr>
<td>15</td>
<td>(TAG 6)</td>
</tr>
<tr>
<td></td>
<td>Written Test 2</td>
</tr>
<tr>
<td></td>
<td>Identifying Series-Parallel Relationship</td>
</tr>
<tr>
<td></td>
<td>Analysis of Series-Parallel Circuits</td>
</tr>
<tr>
<td>16</td>
<td>(TAG 6)</td>
</tr>
<tr>
<td></td>
<td>Analysis of Series-Parallel Circuits, cont.</td>
</tr>
<tr>
<td></td>
<td>Voltage Dividers with Resistive Loads</td>
</tr>
<tr>
<td>9</td>
<td>(TAG 4, 5, 6)</td>
</tr>
<tr>
<td></td>
<td>Loading Effect of a Voltmeter</td>
</tr>
<tr>
<td></td>
<td>The Wheatstone Bridge</td>
</tr>
<tr>
<td></td>
<td>Lab Test 2</td>
</tr>
<tr>
<td>10</td>
<td>(TAG 7)</td>
</tr>
<tr>
<td></td>
<td>Superposition Theorem</td>
</tr>
<tr>
<td></td>
<td>Thevenin’s Theorem</td>
</tr>
<tr>
<td></td>
<td>Norton’s Theorem</td>
</tr>
<tr>
<td>11</td>
<td>(TAG 8)</td>
</tr>
<tr>
<td></td>
<td>Branch Current Method</td>
</tr>
<tr>
<td></td>
<td>Determinants</td>
</tr>
<tr>
<td></td>
<td>Solving Simultaneous Equations Using a Calculator</td>
</tr>
<tr>
<td>12</td>
<td>(TAG 8)</td>
</tr>
<tr>
<td></td>
<td>Mesh Current Method</td>
</tr>
<tr>
<td></td>
<td>Node Voltage Method</td>
</tr>
<tr>
<td>13</td>
<td>(TAG 9)</td>
</tr>
<tr>
<td></td>
<td>Written Test 3</td>
</tr>
<tr>
<td></td>
<td>The Basic Capacitor</td>
</tr>
<tr>
<td></td>
<td>Types of Capacitors</td>
</tr>
</tbody>
</table>
Course Requirements:
The students will be required to complete all assignments as required. If a student is absent from class, it is their responsibility to obtain class notes and make up any missed class work.

Policies

Course Withdrawing: If for any reason you need to withdraw from this course, be certain that you do so according to College procedure. It is your responsibility to know and follow this procedure. If you simply stop coming to class, without officially withdrawing from the course, your grade is an automatic “F.” Please follow official College procedure for withdrawing from this or any course.

College Academic Policies are located in the College Catalog. A copy of the current catalog may be picked up in any of the division offices or admissions. The list of college policies is also available online at https://www.terra.edu/register/Collegecat/policies.asp.

Support Services: The College offers a number of support services to assist in your success in this course and all courses. Among these services are the Writing & Math Center in B105, the Office of Learning Support Services, which coordinates the campus disability services and tutoring programs, the computer labs, and the computers in the atriums.

Any student who feels he/she may need an accommodation based on the documentation of a disability should contact the Office of Learning Support Services privately to discuss his/her specific issues. Please contact the OLSS at (419) 334-8400 X 2208 or visit 100 Roy Klay Hall (Building A) to coordinate reasonable accommodations.
Cell phones and/or laptops are not to be used in the class.

If you have a documented disability and are receiving academic accommodations through the Office of Learning Support Services, please schedule a meeting with your instructor in a timely manner so that we may discuss how these services will be arranged.

Tutoring services are available to students beginning the second week of every quarter. Students requesting tutoring services should obtain a tutor request form from the OLSS in 100 Roy Klay Hall (Building A) or online at the Terra website. Please note that instructor verification and acceptance of the Student Learner Agreement is necessary for all tutoring requests. All requests should be submitted to 100 Roy Klay Hall (Building A).

**Additional Documentation:**

<table>
<thead>
<tr>
<th>OBR Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved-Effective Date</td>
</tr>
<tr>
<td>Pending (i.e. Additional Information Requested)</td>
</tr>
<tr>
<td>Disapproved</td>
</tr>
<tr>
<td>Today's Date</td>
</tr>
</tbody>
</table>
Course Material Submission Form
Instructions and notes

1. Submit completed forms to atpanels@regents.state.oh.us.
2. Use this form to define course matches and to submit new or revised course materials for faculty panel review. Please do not submit a form for multiple OANs or Courses.
3. For course renumbering and credit hour revision, remember to withdraw the old match.
4. For course renumbering and credit hour revision, you may want to include information about how the new numbers relate to the old in the Institutional Notes to the Faculty Panel.
5. Click check boxes to check the item. Text fields will expand as you enter information. Press tab to move forward through form. Press Shift-tab to move backward. Note that these tables are implemented as MS Word tables. Keep that in mind as you are copying and pasting between your syllabi and this form. It is possible to paste tables as nested tables. Use the Edit Menu “Paste as Nested Tables” selection.
6. Once you are done entering your information, save the data file. Under the File menu, choose “Save as” and then enter the name (no spaces!) of the file using the following naming conventions:
   a. For course material submissions: **Institution-OAN-Course Number-Sequence-Version.** **Institution** is the 4 character HEI institution designation. **OAN** is the Ohio Articulation Number whose match is being defined or revised. **Course Number** is the transcript course number. **Sequence** is an indicator of which course of a multi-course match is addressed in this form. The sequence is of the form (n of m) for an m-course match. For example, 1 of 1 for a single course match or 1 of 2 and 2 of 2 for a 2 course match. **Version** is a number indicating the revision number of this submission. Start with “Ver1” for the first time submission and include the “Ver”.

Example:

If you are submitting course materials for Rhodes Community College MATH110 for OMT005 the name of the file would be LMTC-OMT005-MATH110-(1 of 1)-Ver1.

If you are submitting course materials for Rhodes Community College MATH111 and MATH112 for OMT006 the name of the files would be LMTC-OMT006-MATH111-(1 of 2)-Ver1 and LMTC-OMT006-MATH112-(2 of 2)-Ver1.
7. Course materials must be submitted according to timelines below:

Considering the submissions of new courses for TAG matches, our goal is to work toward a timeline as follows:

Submit Course Material:           Start of Term 1
Faculty Panels Review Submitted Courses:   During Term 1
Approved course is effective:    Start of Term 2
Approved course is matched for transcript processing:   Term 3

A new match will have to be approved according to the timeframes below:

Course Approval Sample Timelines

<table>
<thead>
<tr>
<th>Quarter Institutions</th>
<th>Summer</th>
<th>Autumn</th>
<th>Winter</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Material Submitted for Review</td>
<td>By 6/1</td>
<td>By 8/15</td>
<td>By 1/1</td>
<td>By 3/1</td>
</tr>
<tr>
<td>Faculty Panel Reviews Completed</td>
<td>By 8/1</td>
<td>By 12/31</td>
<td>By 2/28</td>
<td>By 5/31</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester Institutions</th>
<th>Summer</th>
<th>Autumn</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Material Submitted for Review</td>
<td>By 6/1</td>
<td>By 8/15</td>
<td>By 1/1</td>
</tr>
<tr>
<td>Faculty Panel Reviews Completed</td>
<td>By 8/1</td>
<td>By 12/31</td>
<td>By 5/31</td>
</tr>
</tbody>
</table>

8. If you want to submit supplementary supporting documentation, you may do that. Simply send the file along with this form and name the supplementary file Institution-OAN-Course Number-Supplement. Institution, OAN, and Course Number are as described in Number 6 above. Include the word “Supplement”. Just be sure to reference the supplement from the appropriate spot in this document.

9. Remember that all institutions are required to have at least one course match for each OAN in all TAGs for which they have corresponding programs.

10. This form should be used for all submissions or resubmissions starting immediately.

11. If you encounter problems or have questions, please contact any of the individuals listed below:

Jim Ginzer (614) 752-9486 jginzer@regents.state.oh.us
Sam Stoddard (614) 752-9532 ssstoddard@regents.state.oh.us
Candice Grant (614) 644-0642 cgrant@regents.state.oh.us