

## Course Material Submission Form OAN Match Definition Form

**Today's Date:** 1/29/08

<b>Use this table to specify institutional data</b>	
<b>College/University:</b>	Terra State Community College
Name and title of individual submitting on behalf of the college/university	
<b>Name:</b>	Lyn Sullivan
<b>Title:</b>	Director, Institutional Research
<b>Address:</b>	2830 Napoleon Rd. Fremont, OH 43420
<b>Email:</b>	lsullivan@terra.edu
<b>Phone:</b>	419-559-2391
<b>Fax:</b>	419-334-3719

**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

<b>Ohio Articulation</b>	<b>OET001</b>
--------------------------	---------------

<b>Number (OAN)</b> (Use a separate form for each OAN.):	
<b>Number of courses in the match:</b>	1 (up to 10)
<b>Current status of match:</b>	<input checked="" type="checkbox"/> First time submission <input type="checkbox"/> Approved <input type="checkbox"/> Submitted <input type="checkbox"/> Disapproved <input type="checkbox"/> Error <input type="checkbox"/> Resubmitted <input type="checkbox"/> Pending <input type="checkbox"/> Error with enrollment <input type="checkbox"/> Not submitted
<b>Course or Courses being matched to or currently matched to the OAN listed above.</b> (Course Numbers must be exactly what will appear on a student's transcript.):	<b>Course Number</b>
	1.                      EET1700
	2.
	3.
	4.
	5.
	6.
	7.
	8.
	9.
10.	

**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.**

<b>Course Number.</b> (Course Numbers must be exactly what will appear on a student's transcript.):	EET1700	<b>Course Title:</b>	DC Circuits
<b>Hours</b> (be sure that the hours for this course matches the hours in the OAN.)			
<input checked="" type="checkbox"/> <b>Semester Hours</b>		<input type="checkbox"/> <b>Quarter Hours</b>	
<b>Total Credit Hours</b>	3	<b>Lecture Hours</b>	2
		<b>Laboratory Hours (if applicable)</b>	2
<b>Course Placement in Major:</b>		<input checked="" type="checkbox"/> Major Requirement <input type="checkbox"/> Major Elective <input type="checkbox"/> Major Not Offered <input type="checkbox"/> Other	
<b>Pre-Requisite Course work (if applicable)</b> (Be sure this is consistent with the OAN definition):			
PRE/CO: Co-requisite(s): MTH 2310 College Algebra			
<b>Catalog/Course Description: EET1700:</b> 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 through understanding of Ohm' 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.			

**Texts/Outside Readings/Ancillary Materials** (Be sure that the text meets performance expectations): Principles of Electric Circuits (Electron Flow Version) 8<sup>th</sup> Edition, Thomas L. Floyd, Prentice Hall  
 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.

Week

Activity

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

	<ul style="list-style-type: none"> <li>Calculating Current</li> <li>Calculating Voltage</li> <li>Calculating Resistance</li> <li>The Relationship of Current, Voltage, Resistance</li> <li>Energy and Power</li> <li>Power in an Electric Circuit</li> <li>Resistor Power Rating</li> </ul>
3	<ul style="list-style-type: none"> <li>(TAG 4)</li> <li>Energy conversion and Voltage Drop in Resistance</li> <li>Power Supplies</li> <li>Resistors in Series</li> <li>Current in a Series Circuit</li> <li>Total Series Resistance</li> <li>Ohm's Law in a Series Circuit</li> </ul>
4	<ul style="list-style-type: none"> <li>(TAG 3,4)</li> <li>Voltage Source in a Series Circuit</li> <li>Kirchoff's Voltage Law</li> <li>Voltage Dividers</li> <li>Power in a Series</li> <li>Circuit Ground</li> <li>Written Test 1</li> </ul>
5	<ul style="list-style-type: none"> <li>(TAG 5)</li> <li>Lab Test 1</li> <li>Resistors in Parallel</li> <li>Voltage Drop in Parallel Circuits</li> <li>Kirchoff's Current Law</li> <li>Total Parallel Resistance</li> </ul>
6	<ul style="list-style-type: none"> <li>(TAG 5)</li> <li>Ohm's Law in a Parallel Circuit</li> <li>Current Sources in Parallel</li> <li>Current Dividers</li> <li>Power in Parallel Circuits</li> </ul>
7	<ul style="list-style-type: none"> <li>(TAG 6)</li> <li>Written Test 2</li> <li>Identifying Series-Parallel Relationship</li> <li>Analysis of Series-Parallel Circuits</li> </ul>
8	<ul style="list-style-type: none"> <li>(TAG 6)</li> <li>Analysis of Series-Parallel Circuits, cont.</li> <li>Voltage Dividers with Resistive Loads</li> </ul>

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:

**Credit Hours:** 3

**Contact Hours:** 4

**Class Time:**

Laboratory:

**Lab Hours:** 2

**Lecture Hours:** 2

\*\*\*\*\*

**Instructor:** Denny Setzler

**Phone:** 419-559-2443

**Office Hours:** TBA

**Division Office/Location:** E107

**Full-time Contact Person:** Denny Setzler

**Office Location:** E-215D

**Email Address:** dsetzler@terra.edu

**Division Fax:** (419) 334-2300

**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:**

Principles of Electric Circuits (Electron Flow Version) 8<sup>th</sup> Edition, Thomas L. Floyd, Prentice Hall

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	=	<u>14 2/7 %</u>
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:**

<u>Week</u>	<u>Activity</u>
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

- 13 (TAG 5)  
Lab Test 1  
Resistors in Parallel  
Voltage Drop in Parallel Circuits  
Kirchoff's Current Law  
Total Parallel Resistance
- 14 (TAG 5)  
Ohm's Law in a Parallel Circuit  
Current Sources in Parallel  
Current Dividers  
Power in Parallel Circuits
- 15 (TAG 6)  
Written Test 2  
Identifying Series-Parallel Relationship  
Analysis of Series-Parallel Circuits
- 16 (TAG 6)  
Analysis of Series-Parallel Circuits, cont.  
Voltage Dividers with Resistive Loads
- 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)<br>Series Capacitors<br>Parallel Capacitors<br>Capacitors in DC Circuits<br>The Basic Inductor |
| 15 | (TAG 9)<br>Types of Capacitors<br>Series Inductors<br>Parallel Inductors<br>Inductors in DC Circuits   |
| 16 | Final Exam   |

**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:**

**OBR Use**

<b>Approved-Effective Date</b>	
<b>Pending (i.e. Additional Information Requested)</b>	
<b>Disapproved</b>	
<b>Today's Date</b>	

# Course Material Submission Form

## Instructions and notes

1. Submit completed forms to [atpanels@regents.state.oh.us](mailto: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 indication 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

Quarter Institutions

	Summer	Autumn	Winter	Spring
Course Material Submitted for Review	By 6/1	By 8/15	By 1/1	By 3/1
Faculty Panel Reviews Completed	By 8/1	By 12/31	By 2/28	By 5/31

Semester Institutions

	Summer	Autumn	Spring
Course Material Submitted for Review	By 6/1	By 8/15	By 1/1
Faculty Panel Reviews Completed	By 8/1	By 12/31	By 5/31

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](mailto:jginzer@regents.state.oh.us)  
 Sam Stoddard (614) 752-9532 [sstoddard@regents.state.oh.us](mailto:sstoddard@regents.state.oh.us)  
 Candice Grant (614) 644-0642 [cgrant@regents.state.oh.us](mailto:cgrant@regents.state.oh.us)