Department: Technology  
Intermediate Electricity  
EET 205  
SYLLABUS: Spring 2017

S. Jamal Mirlohi  
Office: MTC 302  
Telephone: (410)-334-2879  

Office Hours:  
M W 10:40—11:40 AM  
T TH 10:40—11:40 AM  
TH 4:00—5:00 PM

E-mail: jmirlohi@worwic.edu  

Class Time:  
M 8:30 AM -10:30 AM  
W 8:30 AM -10:30 AM

Course Description  
This course concentrates on the theory and analysis of alternating current (AC). Topics include sine waves, wave forms, transformers, transient analysis, reactance, resonance circuits and filters.  
Prerequisites: EET 100 and MTH 154, or permission of the department head.  
Textbook:  

Course objectives: Listed below are course objectives and associated learning outcomes:

<table>
<thead>
<tr>
<th>Course Objectives</th>
<th>Assessment Goals</th>
<th>Assessment Strategies</th>
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</table>
| 1. Describe basic construction and characteristics of a capacitor and inductor.  
(GEO 4) | Explain how inductor and capacitor stores energy.  
State Coulombs, Faraday’s and Lenz’s Laws.  
Determine the voltage across capacitor and inductor in AC and DC circuits. | Exam questions, quizzes, and graded lab exercises. |
| 2. Analyze sinusoidal waveforms and apply the basic circuit laws to ac circuits.  
(GEO 4) | Identify the characteristics of basic sinusoidal waveform, and calculate angular velocity.  
Describe how sine waves are generated, and use oscilloscope to measure waveforms.  
Define phasor, and use a phasor diagrams to represent a sine waves. | Exam questions, quizzes, and graded lab exercises. |
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| 3. Use complex numbers to express phasor quantities and represent phasors in two complex forms.  
(GEO 4) | Do mathematical operations with complex numbers.  
Show how to represent a phasors in both polar and rectangular forms.  
Perform conversion of complex number between different forms.  
Determine the phase relationship between sinusoidal waveforms of the same frequency. | Exam questions, quizzes, and graded lab exercises | Test 1 2/16 |
| 4. Apply Kirchhoff's current and voltage law to any series or parallel configuration.  
(GEO 4) | Determine the total impedance and phase angle of ac network.  
Find current, voltage, and power levels for each element.  
Analyze series-parallel ac circuits. | Exam questions, quizzes, and graded lab exercises |   |
| 5. Apply mesh and nodal analysis to ac networks with independent and controlled sources.  
(GEO 4) | Determine current using the general approach to mesh analysis.  
Solve linear equations for the loop current.  
Determine the number of nodes within the network, and solve for nodal voltages. | Exam questions, quizzes, and graded lab exercises |   |
| 6. Apply the superposition, Thevenin's, and Norton's theorem to ac networks.  
(GEO 4) | Determine the voltage using superposition theorem.  
Determine Zn, and ZN for ac network.  
Find the Norton equivalent circuit for the network. | Exam questions, quizzes, and graded lab exercises. | Test 2 3/23 |
| 7. Describe the differences between average, apparent, and reactive power.  
(GEO 4) | Calculate power for any combination of resistive and reactive elements.  
Explain the concept of power-factor correction.  
Determine the energy dissipated by the load. | Exam questions, quizzes, and graded lab exercises. |   |
| 8. Analyze parallel and series resonance circuits.  
(GEO 4) | Determine the bandwidth of resonant circuits.  
Define selectivity and half-power frequency.  
Explain how the Q affects the bandwidth. | Exam questions, quizzes, and graded lab exercises | Test 3 4/20 |
COURSE GUIDELINES
The course will be 2 hours lecture and 2 hours laboratory per week.

Tentative Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Chapters</th>
<th>All assignments due on</th>
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<tbody>
<tr>
<td>1,2</td>
<td>10</td>
<td>01/26</td>
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<tr>
<td>3</td>
<td>11</td>
<td>02/02</td>
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<tr>
<td>4</td>
<td>12</td>
<td>02/09</td>
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<td>5</td>
<td>13</td>
<td>02/16</td>
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<td>6,7</td>
<td>14</td>
<td>02/23</td>
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<td>8</td>
<td>15</td>
<td>03/02</td>
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<td>9</td>
<td>16</td>
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<td>18</td>
<td>04/06</td>
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<td>12</td>
<td>19</td>
<td>04/13</td>
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<tr>
<td>13</td>
<td>Review</td>
<td>04/20</td>
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Electronic Literacy Assignment
An Electronic library research paper exploring some aspect of Communication Electronic Circuits will be required with the following minimum requirements: Reference from The electronic library database collection. Due week 12: Cover page with name, title and date; body with Introduction, report and summary. The paper shall be not less than three full pages, and a bibliography from the electronic library database page with a minimum of four total references.

The grading rubric for the paper:

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<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Cover Page</td>
<td>5%</td>
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<tr>
<td>Report:</td>
<td>70%</td>
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<tr>
<td>- Grammar</td>
<td>10%</td>
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<tr>
<td>- Style</td>
<td>20%</td>
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<tr>
<td>- Organization</td>
<td>30%</td>
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<tr>
<td>- Content</td>
<td>10%</td>
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Show evidence in development of this ELA of thinking critically and reasoning logically 10%

Bibliography 15%
TOTAL 100%
COURSE EVALUATION
The grade will be based on 1000 points which will be divided as follows:

- Electronic Library Database Assignment = 50 points
- Class Preparation & Participation = 50 points
- Monthly Quizzes = 450 points
- Competency = 100 Points
- Comprehensive Final Exam = 200 points
- Laboratory Exercises = 150 points

TOTAL 1,000 points

Letter grade will be assigned as follows: A = 900-1000 points, B = 800-899 points, C = 700-799 points, D = 600-699 points, F - Less than 600 points

ACADEMIC HONESTY POLICY:
Students are required to maintain a high level of academic performance. All work submitted to the instructor will be regarded as the work of the student taking the course. Cheating and plagiarism are defined in Wor-Wic’s Student Conduct Policy found in the College Catalog. Infractions of this policy will result in disciplinary action including failure of the assignment, test, or the course.

EMERGENCY INFORMATION STATEMENT
In the event of severe inclement weather or other emergency, information about the closing of the college will be communicated via e2Campus and the College's website. Faculty will communicate with students about their courses and course requirements, such as assignments, quiz and exam dates, and class and grading policies, via Blackboard. Students will be responsible for completing all assignments in accordance with class policies.
SERVICES FOR STUDENTS WITH DISABILITIES
Wor-Wic provides reasonable accommodations for students with disabilities, in compliance with the Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973. If you are in need of accommodations, please contact the counseling office at (410) 334-2899. For more information, see Wor-Wic's Services for Students with Disabilities web page.

SEXUAL VIOLENCE DISCLOSURES
Wor-Wic Community College seeks a campus free of sexual violence which includes sexual harassment, domestic violence, dating violence, stalking, and/or any form of sex or gender discrimination. Please be aware that if a student discloses a personal experience verbally or in writing as a Wor-Wic student to a faculty or staff member, the employee cannot maintain confidentiality and has the mandatory responsibility to notify one of the college’s Title IX coordinators. However, if you’d like to make a confidential disclosure of any such violence, you can contact Wor-Wic’s director of counseling (X-2900) or you can contact the Life Crisis Center at 410-749-HELP or 2-1-1

STATEMENT CONCERNING USE OF BLACKBOARD IN COURSE:
Blackboard is being used as a supplementary site in this course. To access course content in Blackboard you need to have access to Internet connection, (other requirements may apply). Computers that meet these requirements are available on campus in BH 217, HH 100, GH 204, FOH 305, and AHB 108.

Please follow these directions to access course syllabi and any other materials posted for this course:
Login Information:
From Wor-Wic home page, point to “Quick Links” (top right) and click the “Blackboard Login” link.
Enter your Wor-Wic user ID and password (same as your Wor-Wic email user ID and password).
Don’t know your user ID or password? Contact Student Services.

STATEMENT CONCERNING USE OF ACADEMIC INTEGRITY AND COMPUTER USAGE POLICY:
All students logging into Blackboard affirm that they understand and agree to follow Wor-Wic Community College policies regarding academic integrity and the use of College resources as described in the college catalog. Wor-Wic Community College considers the following as violations of the computer usage policy:
Using the campus computing network and facilities to violate the privacy of other individuals.
Sharing of account passwords with friends, family members or any unauthorized individuals
Violators are subject to college disciplinary procedures.
<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>F</th>
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<tbody>
<tr>
<td><strong>Practical</strong> <em>(Use of technology to obtain information GEO 7)</em></td>
<td>Each assignment demonstrates an understanding of the objective. The correct use of commands and syntax is evident. Assignments always meet and exceed stated requirements.</td>
<td>Most assignments demonstrate an understanding of the objective. The correct use of commands and syntax is evident. Assignments meet and usually exceed stated requirements.</td>
<td>Some assignments demonstrate an understanding of the objective. The correct use of commands and syntax is usually evident. Assignments meet the stated requirements.</td>
<td>Assignments incomplete or missing. Shows little or no effort in assigned work. Assignment does not meet stated requirements.</td>
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<tr>
<td><strong>Theory</strong> <em>(Use of Technology to communicate information GEO 7)</em></td>
<td>Each of the problems/answers is accurate and demonstrates understanding of the objective. Well formatted and saved in the appropriate file format. Work always exceeds stated requirements</td>
<td>Most of the problems/answers are accurate and demonstrates understanding of the objective. Well formatted and saved in the appropriate file format. Work usually exceeds stated requirements</td>
<td>Some of the problems/answers are accurate and demonstrates understanding of the objective. Formatted and saved in the appropriate file format. Work meets stated requirements.</td>
<td>Problems/answers usually show no understanding of the objective. Work does not meet the stated requirements.</td>
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