Linear Circuit Analysis II
ENGR 3370

Name: Hacer Varol
Email: hacervarol@sfasu.edu
E-mail is the best way to our communications.
Note: You are expected to add “ENGR 3370” in the subject of each e-mail so that I can easily retrieve the emails from students in this course.

Phone: 936-468-2097
Office: STEM 207N
Office Hours: TBA

If you are not able to stop by my office, you can meet me in Zoom, please send me an email in advance to set a meeting time.

Department: Department of Physics, Engineering, and Astronomy

Class meeting time and place: Lecture - TR 3:30–4:45 pm / STEM 108

Course Description:
Transient circuit analysis; circuit analysis and design using the Laplace transform; convolution in time domain and frequency domain; transfer functions; frequency response and Bode plots; passive and active filter design; Fourier Transform; balanced three-phase AC circuits. Prerequisite: ENGR/PHYS 2305 and MATH 3330.

Text and Materials:

Assignments:
There will be assignments almost every week. These assignments are due one week after they have been posted. Assignments will be submitted using D2L Dropbox. Keep in mind that the HW should be clean and organized, for more details about HW submission refer to “Homework Guidelines” in this document. Once you finish the HW scan the work, and upload it to D2L.

Quizzes:
Quizzes may be posted on D2L or delivered in the classroom as an in-class quiz. The idea is to reinforce knowledge from lecture and reading assignments.

Projects:
There will be multiple projects assigned during the semester. You can think of projects as an assignment with some extra complexity. Most of the projects will require you to use MATLAB and/or Multisim to solve and analyze circuits. The projects will be submitted using D2L, and every project will have its own specific instructions on what will need to be submitted.

Exams:
There will be a total of two regular exams during the semester and one comprehensive final exam. The exams will be based on the homework, and the materials covered during the lecture. These exams will be proctored during the F2F sessions. You will be notified in advance of when the exams will be held. Please contact me as soon as possible if you have any scheduling conflicts.
## Course Calendar (Subject to change):

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics</th>
<th>Chapter</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Aug 28</td>
<td>First and Second Order Circuits Sinusoids and Phasors Sinusoidal Steady-State Analysis</td>
<td>7, 8, 9, 10</td>
<td>Review Materials</td>
</tr>
<tr>
<td>2</td>
<td>Sep 4</td>
<td>Sinusoidal Steady-State Analysis AC Power Analysis</td>
<td>11</td>
<td>11.2, 11.3, 11.4</td>
</tr>
<tr>
<td>3</td>
<td>Sep 11</td>
<td>AC Power Analysis</td>
<td>11</td>
<td>11.5, 11.6, 11.7, 11.8</td>
</tr>
<tr>
<td>4</td>
<td>Sep 18</td>
<td>Three-Phase Circuits</td>
<td>12</td>
<td>12.2, 12.3, 12.4, 12.5, 12.6, 12.7, 12.8</td>
</tr>
<tr>
<td>5</td>
<td>Sep 25</td>
<td>Three-Phase Circuits</td>
<td>12</td>
<td>12.2, 12.3, 12.4, 12.5, 12.6, 12.7, 12.8</td>
</tr>
<tr>
<td>6</td>
<td>Oct 2</td>
<td>Magnetically Coupled Circuits</td>
<td>13</td>
<td>13.2, 13.3, 13.4, 13.5, 13.6, 13.7</td>
</tr>
<tr>
<td>7</td>
<td>Oct 9</td>
<td>Exam 1 (Chapter 11, 12) Magnetically Coupled Circuits</td>
<td>13</td>
<td>13.2, 13.3, 13.4, 13.5, 13.6, 13.7</td>
</tr>
<tr>
<td>9</td>
<td>Oct 23</td>
<td>Laplace Transform</td>
<td>15</td>
<td>15.2, 15.3, 15.4, 15.5, 15.6</td>
</tr>
<tr>
<td>10</td>
<td>Oct 30</td>
<td>Applications of Laplace Transform Exam 2 (Chapter 13, 14, 15)</td>
<td>16</td>
<td>16.2, 16.3</td>
</tr>
<tr>
<td>11</td>
<td>Nov 6</td>
<td>Applications of Laplace Transform</td>
<td>16</td>
<td>16.4, 16.5, 16.6</td>
</tr>
<tr>
<td>12</td>
<td>Nov 13</td>
<td>Fourier Series</td>
<td>17</td>
<td>17.1, 17.2, 17.3</td>
</tr>
<tr>
<td>13</td>
<td>Nov 20</td>
<td>Fourier Series</td>
<td>17</td>
<td>17.4, 17.5, 17.6</td>
</tr>
<tr>
<td>14</td>
<td>Nov 21</td>
<td>Thanksgiving</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Nov 27</td>
<td>The Fourier Transform</td>
<td>18</td>
<td>18.2, 18.3, 18.4</td>
</tr>
<tr>
<td>16</td>
<td>Dec 4</td>
<td>The Fourier Transform</td>
<td>18</td>
<td>18.5, 18.6</td>
</tr>
<tr>
<td>17</td>
<td>Dec 11</td>
<td>Final (All Chapters) (10:30 am – 12:30 am)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Grading Policy:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>10%</td>
</tr>
<tr>
<td>Projects</td>
<td>20%</td>
</tr>
<tr>
<td>Attendance/Participation</td>
<td>5%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>15%</td>
</tr>
<tr>
<td>Exams</td>
<td>30%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
</tr>
</tbody>
</table>

### Late Policy:

Any assignment should be returned in time. In the case that the assignment is returned late it will be affected by the following policy:

<table>
<thead>
<tr>
<th>Time Late</th>
<th>Deduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 day</td>
<td>5</td>
</tr>
<tr>
<td>Less than 2 days</td>
<td>10</td>
</tr>
<tr>
<td>Less than 3 days</td>
<td>25</td>
</tr>
<tr>
<td>Less than 4 days</td>
<td>50</td>
</tr>
<tr>
<td>More than 4 days</td>
<td>100 Not accepted</td>
</tr>
</tbody>
</table>

09/01/2023
Homework Guidelines
As engineers, you should learn how to be organized, you will need to present reports and results to your superiors and these needs to be professional. For that reason, you will need to start learning how to be organized. The homework should be returned complying with the following format:

1. Use clean paper that will scan properly
2. Name should be on the top left corner
3. Pages should be numbered on the top right corner using the following format “3/10”
4. Problems should be organized and in order
5. Problem number should be clear and readable
6. Only one document should be submitted in PDF format
7. Use the following file naming format “LastnameFirstNameInitial_AssignmentNumber.pdf.” For example: VarolH_Assignment_7.pdf

Failing to comply with any of these will result in a 10 points deduction.

Attendance Policy:
Attendance will be based on the Video Quizzes, and Attendance to Lecture/Laboratory Sessions. After watching the lecture videos, you will need to answer a video quiz related to the concepts covered in the lecture video. I will take attendance during the lecture/laboratory sessions, this is to ensure that you are keeping up with the material, and practicing the concepts covered in the lecture videos. If you arrive late to any of the sessions is your responsibility to ensure that your attendance was recorded.

Credit Hour Justification
Meets 3 hrs/wk for 15 weeks, and also meets for a 2-hour final examination. This is a problem-oriented class with homework problems. The lecture total 2.5 hours of contact time each week and the work outside of classes each week averages much more than 5 hours in working homework problems, preparing and answering online quizzes, reading the book to understand the theories used in lecture and in homework problems and exams, working on projects, writing formal project reports, and studying for exams which include major exams and possibly short lecture quizzes.

Asynchronous Content
Asynchronous content will take place in this course during the semester. This requires the students to cover the theory and concepts outside the classroom.

Lecture Remote Delivery
In case of quarantine or if you cannot attend the lecture for some important reason, please let me know so I can stream the class using zoom. This same method will be used in case I am not able to get on campus. The zoom link will be posted in D2L.

General Education Core Curriculum Objectives/Outcomes (EEO)
There are no specific general education core curriculum objectives in this course. This course is not a general education core curriculum course.

Academic Integrity (A-9.1)
The Code of Student Conduct and Academic Integrity outlines the prohibited conduct by any student enrolled in a course at SFA. It is the responsibility of all members of all faculty, staff, and students to adhere to and uphold this policy.

Articles IV, VI, and VII of the new Code of Student Conduct and Academic Integrity outline the violations and procedures concerning academic conduct, including cheating, plagiarism, collusion, and misrepresentation. Cheating includes, but is not limited to: (1) Copying from the test paper (or other assignment) of another student, (2) Possession and/or use during a test of materials that are not authorized by the person giving the test, (3) Using, obtaining, or attempting to obtain by any means the whole or any part of a non-administered test, test key, homework solution, or
computer program, or using a test that has been administered in prior classes or semesters without permission of the Faculty member, (4) Substituting for another person, or permitting another person to substitute for one’s self, to take a test, (5) Falsifying research data, laboratory reports, and/or other records or academic work offered for credit, (6) Using any sort of unauthorized resources or technology in completion of educational activities.

Plagiarism is the appropriation of material that is attributable in whole or in part to another source or the use of one’s own previous work in another context without citing that it was used previously, without any indication of the original source, including words, ideas, illustrations, structure, computer code, and other expression or media, and presenting that material as one’s own academic work being offered for credit or in conjunction with a program course or degree requirements.

Collusion is the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on academic dishonesty, including disclosing and/or distributing the contents of an exam.

Misrepresentation is providing false grades or résumés; providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment for the purpose of obtaining an academic or financial benefit for oneself or another individual or to injure another student academically or financially.

**Definition of Academic Dishonesty**
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.

Please read the complete policy at [http://www.sfasu.edu/policies/academic_integrity.asp](http://www.sfasu.edu/policies/academic_integrity.asp)

**Withheld Grades Semester Grades Policy (5.5)**
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the coursework because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course to compute the grade point average. For additional information, go to [https://www.sfasu.edu/policies/course-grades-5.5.pdf](https://www.sfasu.edu/policies/course-grades-5.5.pdf).

**Student with Disabilities:**
To obtain disability-related accommodations, alternate formats, and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services promptly may delay your accommodations. For additional information, go to [http://www.sfasu.edu/disabilityservices/](http://www.sfasu.edu/disabilityservices/).

Students with special accommodation requests have the responsibility to immediately initiate a meeting with the instructor to discuss how the special accommodations will be provided. Students who are aware of these special needs at the beginning of the semester must inform the instructor in person before the twelfth-class day about any class activity, which will require special accommodations.

**Student Wellness and Well-Being**
SFA values students’ overall well-being, mental health and the role it plays in academic and overall student success. Students may experience stressors that can impact both their academic experience and their personal well-being. These
may include academic pressure and challenges associated with relationships, emotional well-being, alcohol and other drugs, identities, finances, etc.

If you are experiencing concerns, seeking help, SFA provides a variety of resources to support students’ mental health and wellness. Many of these resources are free, and all of them are confidential.

**On-campus Resources:**
The Dean of Students Office (Rusk Building, 3rd floor lobby)
[www.sfasu.edu/deanofstudents](http://www.sfasu.edu/deanofstudents)
936.468.7249
dos@sfasu.edu

SFA Human Services Counseling Clinic Human Services, Room 202
[www.sfasu.edu/humanservices/139.asp](http://www.sfasu.edu/humanservices/139.asp)
936.468.1041

The Health and Wellness Hub “The Hub”
Location: corner of E. College and Raguet St.

To support the health and well-being of every Lumberjack, the Health and Wellness Hub offers comprehensive services that treat the whole person – mind, body and spirit. Services include:

- Health Services
- Counseling Services
- Student Outreach and Support
- Food Pantry
- Wellness Coaching
- Alcohol and Other Drug Education
  [www.sfasu.edu/thehub](http://www.sfasu.edu/thehub)
  936.468.4008
  thehub@sfasu.edu

**Crisis Resources:**
- Burke 24-hour crisis line: 1.800.392.8343
- National Suicide Crisis Prevention: 9-8-8
- Suicide Prevention Lifeline: 1.800.273.TALK (8255)
- johCrisis Text Line: Text HELLO to 741-741