EE 3340 Electronic Circuits II  
Department of Electrical and Computer Engineering  
Fall 2018

A. COURSE INFORMATION
Course number/section: EE-3340_001 CRN 11510  
Class meeting time: TR 3:00-4:20PM  
Class location: UGLC 216  
Course Website: https://blackboardlearn.utep.edu

B. INSTRUCTOR INFORMATION
Instructor: Dr. Pablo Rangel  
Office location: Engineering Annex 310  
Office hours: M 4:00PM-5:00PM, and TR 4:30PM-6:00PM  
Telephone: Email: prangel2@utep.edu  
Appointments: send an e-mail request for appointment, with proposed time.

C. COURSE DESCRIPTION
Catalog Course Description  
Electronics II (3-0) Analysis and design of linear integrated circuits stressing impedance levels, gains and frequency responses. Complex plane concepts. Active filter and oscillator design. Pulse response and stability analysis. Restricted to majors: EE and EECE.

D. PREREQUISITES AND COREQUISITES
Prerequisites: EE 3338 Electronic Circuits I with a grade of "C" or better.
Corequisites: None

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES
[PR] Other notes will be supplied as needed.

Optional Textbook(s) or Other References  
Website: https://blackboardlearn.utep.edu. This will be used primarily for student interface with information and assignments. Check it daily!!!

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT
Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that
describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

By the end of this course, students should be able to:

1. Evaluate electronic systems and their applications.
2. Specify electronic systems and their applications.
3. Design and prototype electronic systems use in mechatronics, automation, power and biomedical engineering.
4. Build electronic systems capable of doing wave-shaping, amplification (step up & step down), filtering, power supplying and rectification operations.
5. Test electronic systems and measure its response using electrical engineering instrumentations such as oscilloscopes in project activities.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

Methods and activities for instruction include the following: lectures, homework assignments, project exercises, and examinations.

H. MAJOR COURSE REQUIREMENTS AND GRADING

Assessment is based on two midterm exams, project reports, homework, quizzes, and a final exam. Expect a quiz when homework is due. The final exam is comprehensive (it can change to non-cumulative based on the students’ effort on the midterm exams). You may examine the final exam within four weeks after the final grades are assigned.

Homework is due at the beginning of class on the classroom desk on the due date. Any time thereafter is considered late and will need to be accepted by instructor. A deduction of points may be given. Leaving it on my inbox does not guarantee it will be accepted. If submitting it early the assignment needs to be labeled clearly on front of it.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL</th>
<th>Total Score</th>
<th>Tentative Grade</th>
</tr>
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<tbody>
<tr>
<td>Homework</td>
<td>10</td>
<td>90 ≤ total</td>
<td>A</td>
</tr>
<tr>
<td>Quizzes/Projects-Labs</td>
<td>20</td>
<td>80 ≤ total &lt; 90</td>
<td>B</td>
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<tr>
<td>Exam I</td>
<td>20</td>
<td>70 ≤ total &lt; 80</td>
<td>C</td>
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<tr>
<td>Exam II</td>
<td>20</td>
<td>60 ≤ total &lt; 70</td>
<td>D</td>
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<tr>
<td>Final Exam</td>
<td>30</td>
<td>total &lt; 60</td>
<td>F</td>
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<tr>
<td>Attendance*</td>
<td>3</td>
<td></td>
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<td>TOTAL</td>
<td><strong>103</strong></td>
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*Attendance

This consist on a 3% extra points on the final grade.
I. **CONTENT/SCHEDULE**

<table>
<thead>
<tr>
<th>WEEK</th>
<th>CHAPTERS/READING</th>
<th>TOPICS</th>
<th>EXAMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Handout [PR]</td>
<td>Fundamentals In Class Review</td>
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<tr>
<td>2</td>
<td>Handout [PR]</td>
<td>Bipolar Junction Transistors (BJT)</td>
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<td>[F_Ch.4]</td>
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<tr>
<td>3</td>
<td>Handout [PR]</td>
<td>Transistor Bias Circuits (BJT)</td>
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<td>[F_Ch.5]</td>
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<td>4</td>
<td>Review - Ch. 5</td>
<td>MOS Field-Effect Transistors (MOSFETs)</td>
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<td></td>
<td>[S/S]</td>
<td></td>
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<tr>
<td>5</td>
<td>Review - Ch. 7</td>
<td>Transistor Amplifiers</td>
<td>Exam 1</td>
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<td></td>
<td>[S/S]</td>
<td></td>
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<tr>
<td>6 - 7</td>
<td>!Ch. 8 [S/S]</td>
<td>Building Blocks of integrated-Circuit Amplifiers</td>
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<tr>
<td>7 - 8</td>
<td>!Ch. 9 [S/S]</td>
<td>Differential and Multistage Amplifiers</td>
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<td>8 - 9</td>
<td>!Ch. 10 [S/S]</td>
<td>Frequency Response</td>
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<tr>
<td>9 - 10</td>
<td>!Ch. 11 [S/S]</td>
<td>Feedback</td>
<td>Exam 2</td>
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<tr>
<td>10 - 11</td>
<td>*Option 1A or 2A [S/S]</td>
<td>Selected topics as time permits</td>
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<td>Thanksgiving Weekend</td>
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<tr>
<td>12</td>
<td>*Option 1B or 2B [S/S]</td>
<td>Selected topics as time permits</td>
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<tr>
<td>13 - 14</td>
<td>*Option 1B or 2B [S/S]</td>
<td>Selected topics as time permits</td>
<td></td>
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! → integrated-circuit amplifiers essential topics
* → Selected topics as time permits:
  - Option 1A: Ch. 12 Output Stages and Power Amplifiers
  - Option 1B: Ch. 13 Operational Amplifier Circuits
    OR
  - Option 2A: Ch. 17 Filters and Tuned Amplifiers
  - Option 2B: Ch. 18 Signal Generators and Waveform-Shaping Circuits

Please consult the Academic Calendar for Holidays and class drop deadlines: https://www.utep.edu/student-affairs/registrar/Academic%20Calendars/academic-calendar.html

**Final Exam:**
*Thursday December 13, 2018 4:00pm-6:45pm*

Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.
J. COURSE POLICIES

Attendance/Tardiness
You must attend all lectures. Absence in more than 6 classes for any reasons will result in an automatic drop from the course!

You are responsible for any materials covered or handed out or announcements made in your absence, therefore make arrangements with classmates when this happens. Records of your attendance will be maintained. Tardiness without the prior consent of the instructor is not accepted and will be penalized. Being tardy consistently without consent can be basis to be removed from class or not be permitted to enter class. This is a disruption to other classmates, impolite and not of an ethical person.

Late Work and Make-up Exams
Late work, scheduled exam absences are not accepted unless there exists legitimate excuse (illness, death in the immediate family, etc.) and adequate documentation is furnished. If a make-up were to be needed it could be a degree higher in difficulty.

Extra Credit
Any will be labeled as such on assignments, exams, and quizzes, etc. Other extra credit to be announced in class as needed.

Cell Phone Use
Cell phone use is prohibited once class begins. They are to be silenced and put away where they are not seen. If a call is expected take it out of the class. Anyone that interrupts class due to cell phone will be asked to leave.

Laptop Use
May be permitted if used for current class work; other uses other than this class is not permitted.

Food in Class
No food or drinks permitted. An exception is bottled water with a cap or sealable lid. Most coffee mugs are not sealable.

Missed Exam
You will receive a zero for a missed exam, unless you have accommodations with Instructor or have a legitimate excuse. You are to communicate any issues immediately.

Participation
To be announced in class when extra points are given.
J. COLLEGE AND UNIVERSITY POLICIES

- Academic Integrity and Scholastic Dishonesty
  (https://www.utep.edu/student-affairs/osccr/student-conduct/academic-integrity.html)

A fundamental principle for any educational institution, academic integrity is highly valued and seriously regarded at The University of Texas at El Paso. More specifically, students are expected to maintain absolute integrity and a high standard of individual honor in scholastic work undertaken at the University. At a minimum, you should complete any assignments, exams, and other scholastic endeavors with the utmost honesty, which requires you to:
  - acknowledge the contributions of other sources to your scholastic efforts;
  - complete your assignments independently unless expressly authorized to seek or obtain assistance in preparing them;
  - follow instructions for assignments and exams, and observe the standards of your academic discipline; and
  - avoid engaging in any form of academic dishonesty on behalf of yourself or another student.

For the official policies on academic integrity and scholastic dishonesty, please refer to Handbook of Operating Procedures.

Academic Integrity

“Academic Integrity is a commitment to fundamental values: honesty, trust, fairness, respect, and responsibility. From these values flow principles of behavior that enable academic communities to translate ideals into action.” Specifically these values are defined as follows:
  - Honesty: advances the quest for truth and knowledge by requiring intellectual and personal honesty in learning, teaching, research, and service.
  - Trust: fosters a climate of mutual trust, encourages the free exchange of ideas, and enables all to reach their highest potential.
  - Fairness: establishes clear standards, practices, and procedures and expects fairness in the interaction of students, faculty, and administrators.
  - Respect: recognizes the participatory nature of the learning process and honors and respects a wide range of opinions and ideas.
  - Responsibility: upholds personal responsibility and depends upon action in the face of wrongdoing.


Scholastic Dishonesty

Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable to another person.

- Cheating
  - Copying form the test paper of another student
  - Communicating with another student during a test
  - Giving or seeking aid from another student during a test
  - Possession and/or use of unauthorized materials during tests (i.e. Crib notes, class notes, books, etc.)
  - Substituting for another person to take a test
  - Falsifying research data, reports, academic work offered for credit

- Plagiarism
  - Using someone’s work in your assignments without the proper citations
• Collusion
  o Unauthorized collaboration with another person in preparing academic assignments

• In-Class Activities and Professional Behavior
  It involves doing the in-class Exercises, participation in class problem-solving, questions and answers, demonstration of a positive, collaborative, and professional attitude, inter- and intra-team collaborations, regular and punctual attendance, attention to details, etc.

• Dropping Courses and Complete Withdrawals
  Students may drop individual courses or completely withdraw from the University as described on the referenced link: [https://academics.utep.edu/Default.aspx?tabid=55178](https://academics.utep.edu/Default.aspx?tabid=55178). Refer to the on-line Academic Calendar at [www.utep.edu/Calendar](http://www.utep.edu/Calendar) to the Class Schedule to identify the dates during which adds, drops, withdrawals, and pass/fail registration changes may occur.

• Disability Services
  American Disabilities Act: If you feel you may have a disability that requires accommodations, contact The Center for Accommodation and Support Services at 747-5148 or [http://sa.utep.edu/cass/](http://sa.utep.edu/cass/) or go to Room 106E Union.

**GENERAL DISCLAIMER**

I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.