ECE 333 LINEAR ELECTRONICS I- SUMMER 2009

Section: ECE-333 B 40611 TR 4:30 PM - 7:10 PM Room # IN 133

Instructor: Alok Berry  Office:- Room #3238, The Engineering Building (Also called Academic VI)
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Office Hours: MTWR 3:30 p.m. - 4:15 p.m. By appointment
              TR 7:15 p.m. – 7:45 p.m. By appointment only

Text: Microelectronics Circuits, Fifth Edition by Sedra and Smith
Publisher: Oxford University Press. ISBN# 0-19-514251-9

Prereq: Grade of C or better in ECE 286 or ECE 280,

Topics: Principles of operation and applications of electron devices and linear circuits. Topics include
        semiconductor properties, diodes, bipolar and field-effect transistors, integrated circuits, amplifiers,
        feedback concepts, operational amplifiers and analog design.

Grading: Graded Work: Home Works, Reading Assessment, Class Participation and Attendance; Projects
         (if given); and three Class Exams plus Comprehensive Final Exam.

         Home Work, Class Participation, Project 5 %.
         3 Class Exams: 75 % (Each class exam 25%) and
         Comprehensive Final Exam 20 %

COMPREHENSIVE FINAL EXAM: Tuesday 7/21/2009, check it in Summer Schedule
                             Time 4:30 p.m. - 6:30 p.m.

No make up for missed exams. In extreme circumstances if a make up exam is to be given, arrangements may
be made during the comprehensive final exam day. Make up exam may be an oral exam.
If you receive very low grades in the comp final exam, you may receive a grade “F” in the course.
If you receive less than 50% in any of the three class exams you may receive a grade “F” in the course.

IMPORTANT INSTRUCTIONS

a. Prior to the class, it is expected that one reads the material which is going to be covered in the class. In
   the beginning of every class I will ask questions to different students to check about reading assessment.

b. Almost every week a set of assigned homework problems will be collected and graded.
   No over due for all home works and no makeup for exams.

c. GMU HONOR CODE will be strictly enforced. Violations of the honor code may result in no credit
   for this course.

d. You are not allowed to bring any loose sheets in the exam. You have to show the work at the space
   provided, if you need more space you can use the backside of the page.

e. You are not allowed to bring any formula sheet in the exam. If needed I will provide you the formulae
   sheet.

f. It is required that you write all the class exams.
g. For maximum learning experience it is very important that students attend all the lectures and do all the suggested home work problems and examples done in the book. Some exam questions will be drawn exclusively from lecture notes and problems you are supposed to have seen. Solution to home work problems will be provided by email.

h. Please do not come late to the class as it disturbs the whole class. If because of some emergency you have to leave the class early you must inform me in the beginning of the class. If you show up late in the class or you leave the class early, you may lose all the credit for class participation and attendance.

The last date to drop a course without Dean=s permission is June 17th, 2009. The selective withdrawal period is 6/18 to 7/7/09.

PROPOSED SCHEDULE

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<thead>
<tr>
<th>Class no./Date</th>
<th>Topics</th>
<th>HW Problems</th>
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<td>1. 6/2</td>
<td>Introduction, 3.1, 3.2, 3.3</td>
<td>4, 10, 15; 22, 26; 34, 40,</td>
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<tr>
<td>2. 6/4</td>
<td>3.3, 3.4</td>
<td>54, 55, 58, 63; 68, 71,</td>
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<tr>
<td>3. 6/9</td>
<td>3.5, 3.6</td>
<td>82, 83, 84, 85, 93, 94, 99, 105(a-d)</td>
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<td>4. 6/11</td>
<td>3.7, 3.8*, 3.9*</td>
<td>106,107,112,115,118</td>
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<tr>
<td>5. 6/16</td>
<td>I EXAM, 4.1</td>
<td>5, 7; 15, 27, 33;</td>
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<tr>
<td>6. 6/21</td>
<td>4.2, 4.3</td>
<td>36, 42, 47;</td>
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<tr>
<td>7. 6/23</td>
<td>4.4, 4.5</td>
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<tr>
<td>8. 6/28</td>
<td>4.6, 4.7</td>
<td>51, 61, 66; 69; 75;</td>
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<tr>
<td>9. 6/30</td>
<td>4.8, 5.1</td>
<td>79, 81, 85, 87; 90, 91;</td>
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<td>10. 7/2</td>
<td>II EXAM, 5.2</td>
<td>2, 3, 9, 10, 19; 20, 24, 39;</td>
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<td>11. 7/7</td>
<td>5.3, 5.4, 5.5</td>
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<td>12. 7/9</td>
<td>5.6, 5.7</td>
<td>116,124; 128,139,144</td>
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<tr>
<td>13. 7/14</td>
<td>5.7, 5.8</td>
<td>some more problems</td>
</tr>
<tr>
<td>14. 7/16</td>
<td>III Exam, Review for Final</td>
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Note that the exam schedules for the 3 class exams are tentative. Actual dates will be announced in the class. No make-up for exams. The sections with A*@ students should cover themselves. The class exam will be given in the beginning of the class and you will have 75 minutes to finish the exam.

TEST TIPS

* Print your Name VERY CAREFULLY on First Sheet/Formula sheet (if provided)
* Read the Problem
* Answer what (but only what) is Asked
* Label diagrams with parameters in equations - Points are lost here!
* Watch for, and then include UNITS in answers - Points are lost here!
* Identify Answers (Box, Circle, Underline, etc) and put them at the designated space (If provided).
* Communicate
* You have seen all required concepts before
DON'T PANIC!!

In general:
Manage your time. (Also known as "racking up the points")
Skim all problems - find familiar areas.
Read total problem through: if part "a" is "impossible", parts "b", "c", etc may be "doable".
Allot more time to high point value problems.
Leave time to go back and touch up earlier problems.
Do easiest problems first.
Quit when you reach the end of a problem's budgeted time.
You will invariably get more points by starting a new problem than by trying to finish an old one.
Guess. (If the odds are with you)
Make clear how you are solving a problem. (Don't make me guess)
Tell me what you would do (if you had more time or if the problem had not gotten out of control by some errors).
Note any assumptions you have made in doing the problem.
Watch point values: generally they tell how much work is involved.

HOMEWORK DO'S AND DON'TS

A. Mechanics: Points will be deducted for not following these guidelines.
   You are expected to do the HW problems pertaining to a section after a section has been covered in the class. HW problems will be collected almost in every class.

   1. Buy, beg or steal a stapler to fasten homework pages together.
   2. Print your name carefully.
   3. Use only standard (8 1/2 x 11) size paper.
   4. Do not use legal size paper.
   5. Computer paper is OK if cut to standard size.
   6. Do not use spiral bound notebook paper.
   7. Do not fold assignments in half.
   8. Put all the problems in order.
   9. On the first page/cover sheet must write the assigned homework problems and you must mention the problems which you have not attempted.

10. Home works will be accepted in class only. If the homework is not submitted in the class, there are good chances for it to be lost. If late HW is accepted you may get only 50% of the credit.

11. Must draw all the required circuit diagrams. If required circuit diagrams are not drawn for a problem you may get no credit for the entire HW.

12. In HWs and exams you will lose points if appropriate units and prefixes are not used.

13. If you do not follow these guidelines you may get no credit for the HW
14. IN ALL THE WORK TO BE GRADED SHOW ALL STEPS AND ALL THE WORK NEATLY.

B. Other considerations

1. Show work. Techniques, approaches and methods for solving are more important than answers on homework (but answers DO count).

2. Homework and exams must be individual effort. Students are encouraged to form study groups to learn and discuss the material.

3. Include all diagrams, labels etc. necessary for the problem to stand "alone".

4. Identify (Box, circle, underline, etc) answers.

IMPORTANT INFORMATION:
Before coming to the class all persons (including professor) will turn off all the communication devices (including cellular phones etc). It is the university policy.

It is very important that you do not miss classes. From second class almost in every class I will ask questions about the reading assignment and if I find that some student is not doing the reading assignment, grade of that student may go down by one step, e.g. >C+= will go down to >C=, >B= will go down to >B->. If you miss many classes you may not get any credit in class participation also.

No make-up for missed class exams. If under extreme circumstances a make-up exam is to be given, most probably it will be an oral exam. If I agree to give a written exam it may be given in the final exam week only if you have got good grades (more than 50%) in the other exam/exams. Only 50% of the credit you earn in a makeup exam will be counted in making the final grades.

The comprehensive exam will have 10-20 multiple choice problems and in the rest of the exam problems you will have to show the work. If you score very low (less than 50%) in the comprehensive final exam you may get a grade AF@ in the course. If you score very low (50% or below) in any of the three exams you may not pass the course.

It is very important that you provide only the information you have been asked for (It is important especially when I ask you to explain something). If you just try to reproduce information or a diagram from the book without any explanation you may get no credit for the problem.