ECEN 543  
Analog CMOS Circuits  
Winter 2006  

Instructor: Donald T. Comer (Office 459A CB)  
Class Meeting Time: MWF 10-10:50AM  
Credit Hours: 3  
Room: MARB 363  
Prerequisites: ECEN313 and ECEN443 or 445 or equivalent background.  

Overview:  
The first 5 weeks of the course will cover CMOS device physics, operating regions,  
CMOS processing, Design Rules and Layout. The coverage will follow closely the first  
3-chapters of the class textbook. Additional handouts will be provided to integrate more  
PSPICE simulation into text approach. Also Signal Flow Graphs will be introduced as a  
supplemental analysis tool. The second 5-weeks of the course will cover classic op amp  
circuits and design approaches with an emphasis on compensation. This material will  
include chapters 4 and 5 of the text as well as handout notes on compensation.  
The remaining weeks of the course will be devoted to practical op amp design and  
simulation, culminating in a final project in which the student will design and simulate an  
op amp to a set of specifications.  

Exams:  
The first scheduled midterm will be given the end of the 5th week of class and will be  
held in class. Subsequent midterms and the class final may be given as take-home  
exams.  

Grading:  

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<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework &amp; Projects</td>
<td>33%</td>
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<tr>
<td>Midterms</td>
<td>33%</td>
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<td>Final Exam</td>
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Projects:  

Student projects may be carried out as an extension of homework assignments and will  
use either SPICE or analytical techniques or both. Informal class presentations may  
ocasionally be required.