<table>
<thead>
<tr>
<th>Course name</th>
<th>ECE 20800 Electronic Devices and Design Laboratory</th>
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<tr>
<td>Credit and contact hours</td>
<td>(1 cr.) Lab 1</td>
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<tr>
<td>Course coordinator’s name</td>
<td>Maher Rizkalla</td>
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<td>Textbook</td>
<td>Lab Manual</td>
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| Course information | **2014-16 IUPUI Campus Bulletin description:**
ECE 20800 Electronic Devices and Design Laboratory (1 cr.) P: ECE 20700. C: ECE 25500. Lab 3. Laboratory experiments in the measurement of electronic device characteristics. Design of biasing networks, small signal amplifiers and switching circuits.  

**Prerequisites/ Co-Requisite**  
P: ECE 207  C: Course must be taken simultaneously with ECE 255  

**Required, Elective, or Selected Elective:**  
EE Required, CE Elective |
| Goals for the course | Upon successful completion of the course, students should be able to  
1. Measure the input resistance and output resistance of a linear amplifier using the half-deflection method. [b, k]  
2. Design, analyze, and test single-stage amplifiers that use bipolar transistors, FETs, and operational amplifiers. [b, c]  
3. Design, analyze, and test a cascaded two-stage amplifier. [b, c]  
4. Design, analyze, and test a differential amplifier. [b, c]  
5. Design, analyze, and test low pass active filters. [b, c]  
6. Use the oscilloscope in the x-y mode to display voltage versus frequency. [b, k] |
| List of topics to be covered | 1. Measurement of input and output resistance by the half-deflection method.  
2. Design, analysis, assembly, and testing of bipolar amplifiers.  
3. Design, analysis, assembly, and testing of two-stage amplifiers.  
4. Design, analysis, assembly, and testing of FET amplifiers.  
5. Design, analysis, assembly, and testing of differential amplifiers.  
7. Design, analysis, assembly, and testing of active filters. |
| Syllabi approved by | Maher Rizkalla |
| Date of approval | 04/05/2016 |