ECE 340 ELECTRONICS I
Syllabus
University of Illinois at Chicago
Spring 2012

INSTRUCTOR Dr. Vahe Caliskan
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Office 921 SEO, (312) 996-6013
Office Hours: TBD
Lecture 1:00pm–1:50pm on Mondays, Wednesdays & Fridays in 209 BH (CRN: 18143)
Course Webpage http://www.uic.edu/~vahe/spring2012/ece340/

Laboratory/TA 8:00am–10:50am on Tuesdays in 3253 SEL (CRN: 26921, Bo Hsu)
11:00am–1:50pm on Thursdays in 3253 SEL (CRN: 18139, Md. Tanim Humayun)
2:00pm–4:50pm on Thursdays in 3253 SEL (CRN: 18140, Alireza Tajfar)

Course Description Operational amplifiers. Semiconductor junctions. Bipolar and field-effect transis-
tors. Simple transistor amplifier and switching applications. Introduction to digital logic circuits.
Laboratory experience. Previously listed as EECS 340.

Prerequisites Grade of C or better in ECE 225.
Textbook Adel S. Sedra and Kenneth C. Smith, Microelectronic Circuits, 6th edition, Oxford University
Press, 2009, ISBN: 978-0195323030. You may use earlier editions of the textbook (for example, 5th or
4th edition); however, I will always refer to the 6th edition for reading and homework assignments. It
is therefore your responsibility to make sure that your work is synchronized with what I am assigning.
The companion website for the textbook is http://www.sedrasmith.org.

Homework Reading and homework will be assigned and the solutions will be posted after the due date.
Homework will not be collected but will be the basis for the quizzes.

Laboratory Laboratory sessions will begin on the second week of the semester and meet almost every week.
There will be pre-lab assignments that must be done before the actual experiments. Please refer to the
laboratory section of the course website for more information on laboratory policy, ECE 340 parts kit
and the experiments. There will be no make-up laboratory sessions. You must attend the registered
laboratory session. Please don’t be late to your laboratory session as you will not get extra time to
complete the experiment.

Quizzes Quizzes will be based on homeworks and material covered in lectures. The dates for the quizzes
will be announced in class. Lowest quiz grade will be dropped. No make-up quizzes will be given.
Your first missed quiz will be treated as a dropped quiz.

Grade Determination Your grade for the course will be determined by your performance in quizzes,
laboratory reports and the final exam. Here are the relative weights for each component:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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</thead>
<tbody>
<tr>
<td>Laboratory Reports</td>
<td>15%</td>
</tr>
<tr>
<td>Quizzes (lowest grade dropped)</td>
<td>60%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>25%</td>
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</tbody>
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Unless otherwise noted, we will use a straight scale to determine the grades
(A = 90–100%, B = 80–89%, C = 70–79%, D = 60–69%, E = 0–59%)

Topics The following is a list of topics to be covered: review of linear circuit analysis and network theorems;
ideal and non-ideal op-amp circuit analysis; introduction to semiconductor materials; diodes and diode
circuits; bipolar-junction transistors and amplifiers; field-effect transistors and amplifiers; small-signal
and large-signal circuit analysis techniques; rectifiers, power supplies and amplifiers; BJT and FET
switches, TTL, NMOS and CMOS logic circuits.

DR. VAHE CALISKAN
Handed out: January 9, 2012