NATIONAL TECHNOLOGICAL UNIVERSITY
IC 541CA – Spring 2003 - 4 Units
Digital Integrated Circuits
Professor Jan Rabaey
(UC Berkeley EECS 141)

Textbooks

Course web site
http://bwrc.eecs.berkeley.edu/Classes/ic541ca/ic541ca_s03/

Lecture Schedule
Special Note: This syllabus reflects the sequence of lectures as videotaped in the Spring of 2002.

TBA  Conference Call: There will also be a conference call with Prof. Rabaey at some point during the semester. Details will be provided when available.

TBA  Conference Call Sign-Up: You MUST call the Cal VIEW office at (510) 642-5776 to sign up for the introductory conf. call with Mike on date January 21.

Tues, January 21  Lecture #1 – Course Introduction

Tues, January 21  MANDATORY Introductory Conference Call: with Mike at 11:30am PT.

Thurs, January 23  Lecture #2 – Design Metrics

Tues, January 28  Lecture #3 – CMOS Inverter, MOS Transistor Model
COURSE SYLLABUS – IC 541CA

Thurs, January 30
Lecture #4 – CMOS Inverter, Voltage Transfer Characteristic

Tues, February 4
Lecture #5- IC Manufacturing and Design Rules

Thurs, February 6
Lecture #6- MOS Capacitances & Prop Delay

Fri, February 7
HOME WORK #1 DUE: must be postmarked by 2/7.

Tues, February 11
Lecture #7- Propagation Delay & Inverter Sizing

Thurs, February 13
Lecture #8 – Power and CMOS scaling

Fri, February 14
HOMEWORK #2 DUE: must be postmarked by 2/13.

TBA
Conference Call Sign-Up: You MUST call the Cal VIEW office at (510) 642-5776 to sign up for the conf. call with Mike on February 18.

Tues, February 18
Lecture #9 – Wires

Tues, February 18
Exam Conference Call: with Mike at time 11:30am PT for Exam 1 review/questions

Thurs, February 20
Lecture #10 – Wire Modeling

Fri, February 21
HOMEWORK #3 DUE: must be postmarked by 2/21.

Week of February 24 - 28
MIDTERM EXAM #1 DUE: must be postmarked by 2/28.

Tues, February 25
Lecture #11 – Complementary CMOS Logic

Thurs, February 27
NO LECTURE

TBA
Conference Call Sign-Up: You MUST call the Cal VIEW office at (510) 642-5776 to sign up for the conf. call with Mike on March 4.

Tues, March 4
Project Conference Call: with Mike for project questions/discussion at 11:30am PT.

Tues, March 4
Lecture #12 – Complementary CMOS

Updated 1/21/2003
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<tr>
<th>Date</th>
<th>Event Description</th>
<th>Notes</th>
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<tr>
<td>Thurs, March 6</td>
<td>Lecture #13 – Sizing + Ratioed Logic</td>
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<td>Fri, March 7</td>
<td>HOMEWORK #4 DUE: must be postmarked by 3/7.</td>
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<td>Tues, March 11</td>
<td>Lecture #14 – Pass Transistor Logic</td>
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<td>Thurs, March 14</td>
<td>Lecture #15 – Dynamic Logic</td>
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<td>Fri, March 15</td>
<td>HOMEWORK #5 DUE: must be postmarked by 3/15.</td>
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<td>Tues, March 18</td>
<td>Lecture #16 – Sequential Circuits Latches and Flip-flops</td>
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<td>Thurs, March 20</td>
<td>Lecture #17 – Sequential Circuits Flip-flops, Multi-vibrators</td>
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<td>Fri, March 21</td>
<td>HOMEWORK #6 DUE: must be postmarked by 3/21.</td>
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<td>Week of March 24 – 28</td>
<td>SPRING BREAK – NO BROADCASTS</td>
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<td>Tues, April 1</td>
<td>Lecture #18 – Arithmetic</td>
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<td>Thurs, April 3</td>
<td>Lecture #19 – Arithmetic</td>
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<td>Fri, April 4</td>
<td>PROJECT PHASE #1 DUE: must be postmarked by 4/4.</td>
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<td>TBA</td>
<td>Conference Call Sign-Up: You MUST call the Cal VIEW office at (510) 642-5776 to sign up for the conf. call with Mike on April 8.</td>
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<td>Tues, April 8</td>
<td>Exam Conference Call: with Mike for Exam 2 and project 2 review/questions at 11:30am PT.</td>
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<td>Tues, April 8</td>
<td>Lecture #20 – Power Dissipation</td>
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<td>Thurs, April 10</td>
<td>Lecture #21 – Timing Issues</td>
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<td>Fri, April 11</td>
<td>HOMEWORK #7 DUE: must be postmarked by 4/11.</td>
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<td>Week of April 14-18</td>
<td>MIDTERM EXAM #2 DUE: must be postmarked by 4/18.</td>
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Tues, April 15
NO LECTURE

Thurs, April 17
NO LECTURE

Tues, April 22
Lecture #22 – Timing Issues

Thurs, April 24
Lecture #23 – Interconnect – Resistive

Fri, April 25
HOMEWORK #8 DUE: must be postmarked by 4/25.

Tues, April 29
Lecture #24 – Interconnect – Inductive

Thurs, May 1
Lecture #25 – Semiconductor Memory

Tue, May 6
Lecture #26 – Semiconductor Memory

Thurs, May 8
Lecture #27 – Review and Discussion

Fri, May 9
HOMEWORK #9 DUE: must be postmarked by 5/9.

TBA
Conference Call Sign-Up: You MUST call the Cal VIEW office at (510) 642-5776 to sign up for the conf. call with Mike on May 13.

Tues, May 13
Exam Conference Call: with Mike for Final Exam questions/discussion at 11:30am PT.

Fri, May 16
PROJECT PHASE #2 DUE: must be postmarked by 5/16.

Week of May 12- 16
FINAL EXAM DUE: must be postmarked by 5/16.