CENG 241 – Digital Design

Fall 2017

Instructor
Samer Moein, Ph.D.
E-mail: samerm@uvic.ca (put CENG 241 in Subject line)

Office Hours
Days: Monday & Wednesday (12:00 - 2:00)
Location: EOW 403

Course Objectives

1. Understand fundamental concepts in analyzing and designing combinational and sequential logic circuits.
2. Gain experience with implementation and testing of digital systems.

Learning Outcomes

Upon completion of this course you will acquire the following skills:

1. Understanding binary number system.
2. Understanding Boolean algebra and its basic theorems and postulates.
3. Understanding the characteristics and behavior of logic gates and acquiring the capability to analyze and design combinational and sequential logic circuits.
4. Gaining an introductory experience with implementation and testing of digital logic systems together with supporting software development tools.

Syllabus

Chapter 1  Digital systems and binary numbers
Chapter 2  Boolean algebra and logic gates
Chapter 3  Gate-level minimization
Chapter 4  Combinational logic
Chapter 5  Synchronous sequential logic
Chapter 6  Registers and Counters
Chapter 7  Memory and programmable logic
Section:

A01 / CRN 10450
Days: Monday and Thursday
Time: 10:00 – 11:20
Location: ECS 125

Labs:

<table>
<thead>
<tr>
<th>No.</th>
<th>Day</th>
<th>Time</th>
<th>Location</th>
<th>Lab TA</th>
</tr>
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<tbody>
<tr>
<td>B01</td>
<td>M</td>
<td>12:15 pm-03:05 pm</td>
<td>ELW-A359</td>
<td>TBD</td>
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<tr>
<td>B04</td>
<td>Th</td>
<td>12:15 pm-03:05 pm</td>
<td>ELW-A359</td>
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<tr>
<td>B05</td>
<td>F</td>
<td>01:45 pm-04:35 pm</td>
<td>ELW-A359</td>
<td>TBD</td>
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<tr>
<td>B06</td>
<td>Th</td>
<td>03:30 pm-06:20 pm</td>
<td>ELW-A359</td>
<td>TBD</td>
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Required Text:
Authors: M. Morris Mano and Michael D. Ciletti
Publisher: Pearson.
Year: 2017.

Assessment:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Grade</th>
<th>Details</th>
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<tbody>
<tr>
<td>Assignments</td>
<td>0%</td>
<td>No due dates; solutions posted one week after assignment</td>
</tr>
<tr>
<td>Labs¹</td>
<td>30 %</td>
<td></td>
</tr>
<tr>
<td>Mid-term</td>
<td>30 %</td>
<td>Date: October 19th</td>
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<tr>
<td>Final Exam</td>
<td>40 %</td>
<td>Date: To be scheduled during exam period</td>
</tr>
<tr>
<td>Total</td>
<td>100 %</td>
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¹: Failure to complete all laboratory requirements will result in a grade of N being awarded for the course.

The final grade obtained from the above marking scheme for the purpose of GPA calculation will be based on the percentage-to-grade point conversion table as listed in the current Undergraduate Calendar.

http://web.uvic.ca/calendar2017-09/undergrad/info/regulations/grading.html

There will be no supplemental examination for this course.

Note to Students: Students who have issues with the conduct of the course should discuss them with the instructor first. If these discussions do not resolve the issue, then students should feel free to contact the Chair of the Department by email or the Chair’s Secretary to set up an appointment.

Accommodation of Religious Observance:
Undergrad: http://web.uvic.ca/calendar2017-09/undergrad/info/regulations/religious-observanc.html#
Policy on Inclusivity and Diversity:  
http://web.uvic.ca/calendar2017-09/general/policies.html

Standards of Professional Behaviour: You are advised to read the Faculty of Engineering document Standards for Professional Behaviour, which contains important information regarding conduct in courses, labs, and in the general use of facilities. 
http://www.uvic.ca/engineering/assets/docs/professional-behaviour.pdf

Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult the entry in the current Graduate Calendar for the UVic policy on academic integrity.  
http://web.uvic.ca/calendar2017-09/undergrad/info/regulations/academic-integrity.html

Equality: This course aims to provide equal opportunities and access for all students to enjoy the benefits and privileges of the class and its curriculum and to meet the syllabus requirements. Reasonable and appropriate accommodation will be made available to students with documented disabilities (physical, mental, learning) in order to give them the opportunity to successfully meet the essential requirements of the course. The accommodation will not alter academic standards or learning outcomes, although the student may be allowed to demonstrate knowledge and skills in a different way. It is not necessary for you to reveal your disability and/or confidential medical information to the course instructor. If you believe that you may require accommodation, the course instructor can provide you with information about confidential resources on campus that can assist you in arranging for appropriate accommodation. Alternatively, you may want to contact the Resource Centre for Students with a Disability located in the Campus Services Building. 
The University of Victoria is committed to promoting, providing, and protecting a positive, and supportive and safe learning and working environment for all its members.

Course Lecture Notes  
Unless otherwise noted, all course materials supplied to students in this course have been prepared by the instructor and are intended for use in this course only. These materials are NOT to be re-circulated digitally, whether by email or by uploading or copying to websites, or to others not enrolled in this course. Violation of this policy may in some cases constitute a breach of academic integrity as defined in the UVic Calendar.