**COMPUTER LOGIC DESIGN**

<table>
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<tr>
<th>Course Number</th>
<th>238L</th>
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<tbody>
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<td>Course Name</td>
<td>COMPUTER LOGIC DESIGN</td>
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**Credit Value**

| (Breakdown of theory and lab credits) | 4 credits, 3 Theory + 1 Lab |

**Catalog Course Description**

You will study binary number systems, Boolean logic; combinatorial, sequential, and register transfer logic; VHDL; arithmetic/logic unit; memories, computer organization, input-output, and microprocessors. Prerequisites: ENGR 120 or MATH 150 and EECE 152L. (Cross-listed with CS 238L) (Spring) (4, 3T+1L)

**Student Learning Outcomes/Objectives /Competencies of the Course**

1. Student will (a) understand binary number and other number system representations such as octal, hexadecimal; (b) understand Boolean Logic and applied to logic circuit design; (c) design combinatorial circuits; (d) understand the concept of state machine; (e) design sequential circuits; (f) implement combinatorial and sequential circuits in software and hardware.
2. Student will develop skill in using VHDL for writing basic combinatorial and sequential circuits.
3. Student will gain hands-on experience building and debugging combinatorial and sequential circuits.

**College-Wide Student Learning Outcomes**

Information regarding which of the following college-wide objectives will be addressed in the course along with which assignment will be used to measure this outcome:

1. Critical Thought
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<tr>
<th><strong>Course Number</strong></th>
<th>Speech 130 Public Speaking</th>
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<tr>
<td><strong>Credit Value</strong></td>
<td>3 Theory</td>
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<tr>
<td><strong>Catalog Description</strong></td>
<td>Principles of rhetorical theory as applied in public speaking situations: audience analysis, content, organization, style, verbal and non-verbal expression, and critical listening. You will deliver various speeches following selected rhetorical modes. Prerequisite: ENG 109N. (3 credits)</td>
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### Student Learning Outcomes of the course

1. Confront their speech anxiety and practice ways to control it.
2. Organize their speeches logically and effectively.
3. Develop their speeches with interesting and pertinent information from their own experiences and research.
4. Integrate information from resources effectively and with correct MLA citations.
5. Practice effective verbal and nonverbal delivery techniques.
6. Analyze their audience and design their speeches to most effectively reach the audience.
7. Develop critical responses and evaluations to speeches from classmates and other speakers.

### College-Wide Student Learning Outcomes

Speech 130 learning objectives align with the following NNMC College Wide Goal:

**Communication** – Students will express ideas coherently through oral communication and speak appropriately for various audiences and situations.

The persuasive speech will be used to assess students’ progress in meeting this goal.