Course Information

Course Code: 5670348  
Course Section: 2  
Course Title: INTRODUCTION TO LOGIC DESIGN  
Course Credit: 3  
Course ECTS: 5.0  
Course Catalog Description: Binary systems and Boolean algebra. Boolean function simplification. Combinational logic. Sequential synchronous logic. Registers and counters.  
Prerequisites: No prerequisites  
Schedule: Monday, 13:40 - 14:30, EA312  
Wednesday, 13:40 - 15:30, EA312

Instructor Information

Name/Title: Prof. Dr. ŞENAN ECE SCHMIDT  
Office Address: A-402  
Email: eguran@metu.edu.tr  
Personal Website: http://users.metu.edu.tr/eguran/  
Office Phone: 210 4405  
Office Hours: None

Course Objectives

To teach students the basics of combinational and sequential logic design, To prepare the students for advanced courses in microprocessors, computer architecture and VLSI.

Tentative Weekly Outline

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Relevant Reading</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1- Introduction</td>
<td>(1 class hour)</td>
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<tr>
<td>2</td>
<td>2- Number systems, signed arithmetic</td>
<td>(3 class hours)</td>
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<tr>
<td>3</td>
<td>3- Boolean Algebra and logic gates,</td>
<td>(3 class hours)</td>
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<tr>
<td></td>
<td>4- Simplification of Boolean functions,</td>
<td>(3 class hours)</td>
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<tr>
<td></td>
<td>Karnaugh map</td>
<td></td>
<td></td>
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<tr>
<td>5</td>
<td>5- 2-level implementations</td>
<td>(2 class hours)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6- Design of Combinational circuits,</td>
<td>(3 class hours)</td>
<td></td>
</tr>
</tbody>
</table>
Week | Topic | Relevant Reading | Assignments
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7 | 7- MSI circuits, | (4 class hours) |  
8 | 8- Basic flipflops, | (2 class hours) |  
9 | 9- Analysis of synchronous sequential logic, | (3 class hours) |  
10 | 10- Design of synchronous sequential circuits, | (6 class hours) |  
11 | 11- Registers and serial mode of operation. | (6 class hours) |  
12 | 12- Counters and timing signals. | (6 class hours) |  

**Course Textbook(s)**


**Course Grading**

<table>
<thead>
<tr>
<th>Deliverable</th>
<th>Grade Points</th>
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<tbody>
<tr>
<td>MT</td>
<td>30</td>
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<tr>
<td>MT</td>
<td>30</td>
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<tr>
<td>Final</td>
<td>30</td>
</tr>
<tr>
<td>Quiz</td>
<td>10</td>
</tr>
<tr>
<td>Attendance (conditional bonus)</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>105</strong></td>
</tr>
</tbody>
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**Course Policies**

*Class Attendance*

5% bonus if you attend 100% of the lectures. Proportionally decreased bonus down to 80% attendance.

*Make up for Exams and Assignments*

You can have a makeup if you have a valid health excuse report on the exam date.

*Final Exam Entrance Conditions*

Student can attend the final exam if at least one midterm exam is attended (unless there is a valid health excuse) and if at least two quizzes are attended.
Students who do not attend the final exam (unless there is a valid health excuse) will be graded as NA.

Other
Any attempt of cheating will be considered as a disciplinary action.

Information for Students with Disabilities
To obtain disability related academic adjustments and/or auxiliary aids, students with disabilities must contact the course instructor and the ODTÜ Disability Support Office as soon as possible. If you need any accommodation for this course because of your disabling condition, please contact me. For detailed information, please visit the website of Disability Support Office: http://engelsiz.metu.edu.tr/

Academic Honesty
The METU Honour Code is as follows: "Every member of METU community adopts the following honour code as one of the core principles of academic life and strives to develop an academic environment where continuous adherence to this code is promoted. The members of the METU community are reliable, responsible and honourable people who embrace only the success and recognition they deserve, and act with integrity in their use, evaluation and presentation of facts, data and documents."