## COURSE INFORMATION

| ID | Coordinator/Assistants | Office | E-mail | WEB |
|---|---|---|---|---|
| 0 | Assoc.Prof. Barış Bayram | C-105 | bbayram@metu.edu.tr | http://ultramems.eee.metu.edu.tr |
| 1 | Özlem Tuğfe Demir | E-102 | deozlem@metu.edu.tr | http://www.eee.metu.edu.tr/~sam/ |
| 2 | Mustafa Kangül | ARC-303 | kangul@metu.edu.tr | http://biomems.eee.metu.edu.tr |
| 3 | Fatih Çakır | D-222 | fatih.cakir@metu.edu.tr | http://eee2.metu.edu.tr/personel/fatih-cakir |
| 4 | Fatih Mehmet Özçelik | D-217 | mehmet.ozcelik@metu.edu.tr | http://www.eee.metu.edu.tr/~cng/ |
| 5 | Mahmut Kamil Aslan | ARC-302 | mahmut.aslan@metu.edu.tr | http://biomems.eee.metu.edu.tr |
| 6 | Fırat Öcal | ARC-302 | focal@mems.metu.edu.tr | http://biomems.eee.metu.edu.tr |
| 7 | Eren Aydın | ARC-303 | eaydin@mems.metu.edu.tr | http://biomems.eee.metu.edu.tr |
| 8 | Yunus Can Gültekin | ARC-204 | yunuscan@metu.edu.tr | http://eee2.metu.edu.tr/personel/yunus-can-gultekin |
| 9 | Emre Alp Miran | D-222 | aemre@eee.metu.edu.tr | http://www.eee.metu.edu.tr/~emt/ |
| 10 | Kübra Çırçır | ARC-305 | kcircir@metu.edu.tr | http://eee2.metu.edu.tr/personel/kubra-circir |

**Course Description:**

In the Digital Electronics Laboratory course, hands-on experience based on course materials covered within the co-requisite courses, EE312 Digital Electronics and EE348 Introduction to Logic Design, will be the primary objective. The course will cover transistor (BJT) switching circuits, introduction to logic circuits, TTL, CMOS NAND gates, parallel adders, subtractors, complementers, multiplexers, code converters, comparators with hysteresis, multivibrator circuits using CMOS gates, flip flops, and counters.

There will be 8 experiments, 1 practical final exam and 1 project submission.

| Experiment #, Subject | Prepared by, Requirements |
|---|---|
| **1**, Introduction to ALTERA | Eren Aydın, Windows7-64 bit OS-ALTERA DE1-SoC |
| **2**, NMOS and BJT Inverting Circuits | Özlem Tuğfe Demir, Windows7-32 bit OS-Agilent VEE |
| **3**, Introduction to Logic Circuits | Fatih Mehmet Özçelik, Windows7-64 bit OS-ALTERA DE1-SoC |
| **4**, Parallel Adders, Subtractors, and Complementers | Mustafa Kangül and Yunus Can Gültekin, Windows7-64 bit OS-ALTERA DE1-SoC |
| **5**, Elementary Gate Networks | Fatih Mehmet Özçelik, Windows7-64 bit OS-ALTERA DE1-SoC |
| **6**, TTL and CMOS Logic Structures | Özlem Tuğfe Demir, Windows7-32 bit OS-Agilent VEE |
| **7**, Schmitt Trigger and Multivibrator Circuits | Eren Aydın, Windows7-32 bit OS-Agilent VEE |
| **8**, Flip Flops and Sequential Circuits | Mustafa Kangül and Yunus Can Gültekin, Windows7-64 bit OS-ALTERA DE1-SoC |

In an experiment week, 7 lab sessions (with 2 assistants attending each) will be guided by Özlem Tuğfe Demir (1 per week), Mustafa Kangül (1 per week), Fatih Çakır (2 per week), Mahmut Kamil Aslan (2 per week), Fırat Öcal (2 per week), Eren Aydın (1 per week), Yunus Can Gültekin (1 per week), Emre Alp Miran (2 per week), and Kübra Çırçır (2 per week).

**Grading Policy:**

The percentile weight of activities within this course is as follows:

**Experiments** 64%, where each experiment has equal weight of Quiz×Preliminary work and Performance. Submission of the preliminary work (1 per team) is required to be admitted to the laboratory session. Quiz is delivered at the end of the experiments.

**Practical Final** 18%

**Project** 18%, where Best Project Award Recipients will receive AA, regardless of total internal score.

**Total Score** 100%

**Course Webpage:** METUCLASS
All activities (announcements, assignments, etc.) will use METUCLASS portal (**https://odtuclass.metu.edu.tr/**)