Course Information

Course Code	5670446
Course Section	1
Course Title	COMPUTER ARCHITECTURE II
Course Credit	4
Course ECTS	7.0
Course Catalog Description	Arithmetic processor design, arithmetic algorithms. Memory organization, parallel processing, multiprocessors systems. Peripheral organization. I/O processing. I/O controllers.
Prerequisites	Students must complete one of the following sets to take this course.

Set	Prerequisites
1	5670445

Schedule	Monday , 11:40 - 12:30, EA208 Wednesday, 10:40 - 12:30, EA208
Course Website	All course materials will be on odtuclass.

Instructor Information

Name/Title	Prof.Dr. ŞENAN ECE SCHMİDT
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 Assistants

Name/Title	Araş.Gör. DOĞU ERKAN ARKADAŞ
Office Address	
Email	
Office Hours	

Course Objectives

1) Make student competent with basic CPU structures and arithmetic processors working in different arithmetic systems.

2) Make students familiar with parallel processing hardware concepts, some aspects of multiprocessor performance, interconnection networks and memory organizations.

Instructional Methods

In-class lectures and exams. Laboratory work.

There can be invited speakers.

Tentative Weekly Outline

Week	Topic	Relevant Reading	Assignments
1	Introduction- ARM Single-cycle		
2	ARM Single-cycle		

Week	Topic	Relevant Reading	Assignments
3	ARM Single-cycle		
4	ARM Multi-cycle		
5	ARM Multi-cycle		
6	ARM Pipelined		
7	ARM Pipelined		
8	RAMAZAN BAYRAMI / RAMADAN BREAK		
9	Arm Pipelined Branch Prediction		
10	Memory Organization Cache		
11	Memory Organization Cache		
12	Memory Organization VM		
13	Advanced Topics		
14	Advanced Topics		

Course Textbook(s)

Harris & Harris, “Digital Design and Computer Architecture. ARM Edition”, 1st Ed., Kaufmann, 2015.

Computer Architecture, A Quantitative Approach, 6th Edition, John Hennessy, David Patterson

Supplementary Readings / Resources / E-Resources

Readings

All will be posted on odtuclass.

Assessment of Student Learning

Assessment	Dates or deadlines
Short Exams: **Make sure that your Monday and Wednesday 1240-1330 slots are available.**	
Final exam	
Laboratory Work	
Bonus for attendance >=80%	
Policy:	
At most 2 short exam makeups are possible. The coverage for the short exam makeups will be the final exam coverage. There will be a make-up for the final.	
Documented legitimate excuses must be uploaded to ODTUCLASS for any makeup requests.	

Course Grading

Deliverable	Grade Points
3 short exams, equal weight	30
Laboratory and Class Project	40
Final	30
Bonus for attendance >=80%	5
Total	105

Course Policies

Class Attendance

Attendance will be collected.

Final Exam Entrance Conditions

Students who get 0 grade from Lab2 AND Lab3 AND Lab4 will get NA.