**2023-2024 Spring Semester**

**BLM2022 – Computer Hardware**

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|  | **Gr1** | **Gr2** |
| **Instructor** | Asst. Prof. Erkan Uslu (EU) | Assoc. Prof. Ali Can Karaca (ACK) |
| **Classroom** | D111 | D012 |
| **Course Time** | Friday 14-17 | Friday 14-17 |
| **e-mail** | [euslu@yildiz.edu.tr](mailto:euslu@yildiz.edu.tr) | [ackaraca@yildiz.edu.tr](mailto:ackaraca@yildiz.edu.tr) |
| **Web** | <https://avesis.yildiz.edu.tr/euslu> | <https://avesis.yildiz.edu.tr/17218> |
| **Teams Group** | https://teams.microsoft.com/l/team/19%3aKf0i5D9Zlfoc\_c9pEIkgHnIHo6F7k5TCIa\_LAsbC7BM1%40thread.tacv2/conversations?groupId=803d1e5f-5d4d-4689-87ca-aa2a52a8c145&tenantId=85602908-e15b-43ba-9148-38bc773a816e  Team Code: uljidm5 | |

**e-mail** : subject line with “**[BLM2022-20232]-NameSurname-StudentId-GrNo**”

**Course Outline**:

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| **W.** | **Date** | **Topics** |
| 1 | 23. Feb. 2024 | Introduction, Digital Abstraction |
| 2 | 1. Mar. 2024 | Combinational Logic Design |
| 3 | 8. Mar. 2024 | Sequential Logic Design |
| 4 | 15. Mar. 2024 | Hardware Description Language, **Practical 1** |
| 5 | 22. Mar. 2024 | Digital Building Blocks, **Homework 1** |
| 6 | 29. Mar. 2024 | Instruction Set Architecture |
| 7 | 5. Apr. 2024 | Microarchitecture I (Single Cycle Processor)**, Homework 2** |
| 8 | **12. Apr. 2024** | **Ramadan Feast** |
| 9 | **19. Apr. 2024** | **Midterm** |
| 10 | 26. Apr. 2024 | Microarchitecture II (Multi Cycle Processor), **Homework 3** |
| 11 | 3. May. 2024 | Microarchitecture III (Pipelined Processor, Advanced Microarchitecture), **Practical 2** |
| 12 | 10. May. 2024 | Memory Systems I (Cache), **Homework 4** |
| 13 | 17. May. 2024 | Memory Systems II (Virtual Memory) |
| 14 | 24. May. 2024 | I/O Systems, **Homework 5** |

**According to the 24th article of YTU Associate and Undergraduate Education Regulations, 70% attendance is required for theoretical courses. The grade of the absent student is evaluated as F0 (absent).**

**Reference Text**:

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| Harris, D., Harris, S. (2013). Digital design and computer architecture, 2nd Edition. Morgan Kaufmann.  Mano M. M., Kime C. R. (2015) Logic and Computer Design Fundamentals, 5th Edition. Prentice Hall.  Bryant R. E., O'Hallaron D. R. (2019) Computer Systems: A Programmer's Perspective, Global 3rd Edition, Pearson |

**Grading**:

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| --- | --- | --- |
| **Activities** | **Number** | **Contribution (%)** |
| **Midterm** | **1** | **30** |
| **Quiz** | **-** | **-** |
| **Homework** | **5** | **5 x 6 = 30** |
| **Project** | **-** | **-** |
| **Term Paper** | **-** | **-** |
| **Laboratory** | **-** | **-** |
| **Other** | **-** | **-** |
| **Final** | **1** | **40** |