

MICROPROCESSORS

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| 1 | Course Title: | MICROPROCESSORS |
| 2 | Course Code: | EEM3104 |
| 3 | Type of Course: | Compulsory |
| 4 | Level of Course: | First Cycle |
| 5 | Year of Study: | 3 |
| 6 | Semester: | 6 |
| 7 | ECTS Credits Allocated: | 6.00 |
| 8 | Theoretical (hour/week): | 2.00 |
| 9 | Practice (hour/week): | 0.00 |
| 10 | Laboratory (hour/week): | 2 |
| 11 | Prerequisites: | None |
| 12 | Language: | Turkish |
| 13 | Mode of Delivery: | Face to face |
| 14 | Course Coordinator: | Öğr.Gör.Dr. GÖKHAN YENİKAYA |
| 15 | Course Lecturers: | Öğr.Gör.Dr. Gökhan Yenikaya |
| 16 | Contact information of the Course Coordinator: | E-posta:ersen@uludag.edu.tr Tel: (224) 294 20 32 Adres: Elektrik-Elektronik Mühendisliği Bölümü, No:431 |
| 17 | Website: | |
| 18 | Objective of the Course: | To gain ability to realize analysis and design of microprocessor based system and using them in applications |
| 19 | Contribution of the Course to Professional Development: | |
| 20 | Learning Outcomes: | |
| | 1 | To gain ability to apply theoretical and practical information about microprocessor based systems for modeling and solving engineering problems |
| | 2 | To gain ability to determine, define, formulize and solve complex engineering problems which encountering in microprocessor based systems with selecting proper analysis and modeling method |
| | 3 | To gain ability to design complex system or process which encountering in microprocessor based systems with applying modern modeling methods under realistic circumstance |
| | 4 | To gain ability to develop select and use modern technology and equipment for microprocessor based system applications with using information technology in efficient way |
| | 5 | To gain ability to interpret results with collecting data and analyzing results for investigating engineering problems about microprocessor based systems |
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| 21 | Course Content: | |
| | Course Content: | |

| Week | Theoretical | Practice |
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| 1 | Basic concept of microprocessor, studying memory and input/output units | |
| 2 | System memory design | |
| 3 | Microprocessor design and its running | |
| 4 | Addressing methods, command structures | |
| 5 | Studying command structures | |
| 6 | Developing program | |
| 7 | Developing applications | |
| 8 | Midterm Exam + General review | |
| 9 | Developing applications | |
| 10 | Timer-counter applications | |
| 11 | Interrupt operations and applications | |
| 12 | Asynchronous serial communications applications | |
| 13 | Developing advanced applications | |
| 14 | Developing advanced applications | |

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| 22 | Textbooks, References and/or Other Materials: | 1. Gümüşkaya, H., Mikroişlemciler ve 8051 Ailesi, Alfa Yayınları, 1999. 2. Mackenzie, I.S., The 8051 Microcontoller, Prentice Hall, 1995. 3. ATME1 AT89S52 User Guide |
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| Activities | | Number | Duration (hour) | Total Work Load (hour) |
|--|--|--------------|-----------------|------------------------|
| TERM YEAR LEARNING ACTIVITIES | | NUMBE | WEIGHT | |
| Practicals/Labs | | 14 | 2.00 | 28.00 |
| Self study and preparation | | 14 | 4.00 | 56.00 |
| Quiz | | 0 | 0.00 | |
| Homeworks | | 0 | 0.00 | 0.00 |
| Home work project | | 0 | 0.00 | |
| Projects | | 0 | 0.00 | 0.00 |
| Final Exam | | 1 | 40.00 | |
| Field Studies | | 0 | 0.00 | 0.00 |
| Total | | 12 | 100.00 | |
| Midterm exams | | 1 | 28.00 | 28.00 |
| Contribution of Term (Year) Learning Activities to | | 40.00 | | |
| Others | | 0 | 0.00 | 0.00 |
| Final Exams | | 1 | 40.00 | 40.00 |
| Contribution of Final Exam to Success Grade | | 60.00 | | |
| Total Work Load | | | | 180.00 |
| Total work load/ 30 hr | | | | 6.00 |
| Measurement and Evaluation Techniques Used in the | | | | |
| ECTS Credit of the Course | | | | 6.00 |

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| 24 | ECTS / WORK LOAD TABLE |
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| ÖK5 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LO: Learning Objectives PQ: Program Qualifications | | | | | | | | | | | | | | | | |
| Contribution Level: | 1 very low | | 2 low | | 3 Medium | | 4 High | | 5 Very High | | | | | | | |