# BALIKESİR UNIVERSITY
# NECATİBEY FACULTY OF EDUCATION
# UNIVERSITY ELECTIVE COURSE PROPOSAL FORM

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|---|---|---|---|---|---|---|---|---|---|---|---|
| **Department / Program** | Department of Mathematics and Science Education / Physics Education | | | | | | | | | | |
| **Course Title** | Hobby Circuits | | | | | | | | | | |
| **Semester** | **Fall** | X | | **Spring** | | X | | | | | |
| **Language** | **Turkish** | X | | **English** | | | | | | | |
| **Credits** | **Theory** | 2 | | **Application** | 0 | | **Total** | 2 | | | |
| **ECTS** | 3 | | | | | | | | | | |
| **Type of Program** | Formal Education | | | Face to face | | | | | | | |
| **Course Objectives** | The aim of this course is to recognize the circuit elements used in electronics and to apply them by setting up hobby circuits. | | | | | | | | | | |
| **Course Content** | Simple hobby circuits built with analog circuit elements such as capacitors, resistors, coils, diodes (LEDs), and transistors. | | | | | | | | | | |
| **Course Prerequisites** | There is no prerequisite for the course. | | | | | | | | | | |
| **Instructor** | Prof. Dr. Yavuz EGE | | | **Mail:** yege@balikesir.edu.tr | | | | | | | |
| **Course Assistants** | - | | | **Mail: -** | | | | | | | |
| **Course Internship Status** | The course has no internship. | | | | | | | | | | |
| **Course Resources** | 1. Analog Elektronik (Ömer ERCAN)<br>2. Endüstriyel Elektronik (Kadir ÇETİN) | | | | | | | | | | |
| **Course Category** | Science (50%), Mathematics and Basic Sciences (50%) | | | | | | | | | | |
| **Planned Learning Activities and Methods** | Using knowledge, Application, Gaining skills to work with a group / Application | | | | | | | | | | |

| **Course Evaluation Criteria** | | | **Course ECTS Calculation Content** | | | |
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| **Semester Studies** | **Quantity** | **Contribution(%)** | **Activity** | **Quantity** | **Duration** | **Total Workload (Hour)** |
| **Mid-terms** | 1 | 40 | **Course Duration** | 14 | 2 | 28 |
| **Short Exam** | | | **Out of Class Work Duration** | 14 | 1 | 14 |
| **Homework** | | | **Midterm Exams** | 1 | 20 | 20 |
| **Attendance** | | | **Final Exam** | 1 | 20 | 20 |
| **Practice** | | | **Total Workload:** 82 | | | |
| **Project** | | | **ECTS Credits:** 3 | | | |
| **Final Exam** | 1 | 60 | | | | |

| **Learning Outcomes** | Can construct simple hobby circuits using basic analog circuit elements. |
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**Course Topics**

| Week | Topic | Pre-Study | Materials |
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| 1 | Introduction to Capacitor, Resistor, Coil, Diode (LED), Transistor etc. | Pre-Reading | Lecture Notes and Resources |
| 2 | Introduction to Multimeter and Various Applications | Pre-Reading | Lecture Notes and Resources |

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| 3 | Alternative and Direct Current | Pre-Reading | Lecture Notes and Resources |
| 4 | Voltage Regulation | Pre-Reading | Lecture Notes and Resources |
| 5 | Led Flasher | Pre-Reading | Lecture Notes and Resources |
| 6 | Rain Alarm | Pre-Reading | Lecture Notes and Resources |
| 7 | Liquid Level Meter | Pre-Reading | Lecture Notes and Resources |
| 8 | Midterm Exam | Pre-Reading | Lecture Notes and Resources |
| 9 | Vu-meter | Pre-Reading | Lecture Notes and Resources |
| 10 | Heat Sensitive Circuit | Pre-Reading | Lecture Notes and Resources |
| 11 | Light Sensitive Circuit | Pre-Reading | Lecture Notes and Resources |
| 12 | 555 Integrated Oscillator Circuit | Pre-Reading | Lecture Notes and Resources |
| 13 | Introduction of Logic Gates | Pre-Reading | Lecture Notes and Resources |
| 14 | Simple Applications with Gate Integrated Circuits | Pre-Reading | Lecture Notes and Resources |
| 15 | General Evaluation | Pre-Reading | Lecture Notes and Resources |

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| **Contribution of Learning Outcomes to Program Outcomes** | - |