## TSU Electrical and Electronics Engineering Bachelor Program

## Tab.

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| --- | --- | --- | --- | --- | --- |
| Year; Semester | Course(Department, Number, Title)List all courses in the program by term starting with the first term of the first year and ending with the last term of the final year | Indicate Whether Course is Required, Elective or a Selected Elective by an R, an E or an SE. 1 | Subject Area (Credit Hours) | Last Two Terms the Course was Offered; Year and, Semester, or Quarter | Maximum Section Enrollment for the Last Two Terms the Course was Offered 2 |
| Math & Basic Science | Engineering Topics Check if Contains Significant Design () | General Education | Other |
| 1;1 | (MATH1) Calculus 1 | R | 5 |   |   |   |  |  |
|   | Introduction into Electrical and Electronics Engineering | R |  | 5 |  |   |  |  |
|   | Language 1 (English) | R |  |   | 5 |   |  |  |
|  | Principles of Physics 1 | R | 5 |  |  |  |  |  |
|  | Principles of Physics Laboratory 1 | R | 3 |  |  |  |  |  |
|   | Introduction into Biology | R | 5 |  |  |  |  |  |
| 1;2 | Principles of Physics 2 | R | 5 |   |  |   |  |  |
|   | Principles of Physics Laboratory 2 | R | 3 |   |   |   |  |  |
|   | Language 2 (English) | R |  |   | 5 |   |  |  |
|  | Economics | R |  |  | 5 |  |  |  |
|  | (MATH2) Calculus 2 | R | 5  |  |  |  |  |  |
|   | Humanities (History) UE (University electives) | SE |  |  | 5 |   |  |  |
|   | Humanities (Archeology) | SE |  |  | 5 |  |  |  |
| 2;1 | (MATH4) Linear Algebra | R | 5 |  |  |  |  |  |
|   | Language 3(English)  | R |  |  | 5 |  |  |  |
|  | Programming in C | R | 5 |  |  |  |  |  |
|  | Engineering Electronics | R |  | 5 |  |  |  |  |
|  | Engineering Electronics Laboratory | R |  | 3 |  |  |  |  |
|  | (MATH5) Complex Analysis, Fourier Analysis | R | 5 |  |  |  |  |  |
|   | Humanities (Introduction into Art) | SE |  |  | 5 |  |  |  |
| Tab. Electrical and Electronics Engineering (continued) |
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| Math & Basic Science | Engineering Topics Check if Contains Significant Design () | General Education | Other |
| 2;2 | Electrical Circuits I | R |   | 5 |   |   |  |  |
|   | (MATH3) Calculus 3 | R | 5 |  |   |   |  |  |
|   | Language (English) (advanced level) | R |  |   | 5 |   |  |  |
|  | (AE) Methods of Analysis | R | 5 |  |  |  |  |  |
|  | Humanities (Religious Studies) | SE |  |  | 5 |  |  |  |
|   | Humanities (Georgian Literature) | SE |   |   | 5 |   |  |  |
| 3;1 | Computational and Statistical Methods for Electrical and Electronics Engineering | R |  | 5 |   |   |  |  |
|   | Electrical Circuits II | R |   | 5 |   |   |  |  |
|   | (MATH6) Numerical Methods | R | 5  |  |   |   |  |  |
|   | Digital Systems | R |  | 5 () |  |  |  |  |
|  | Power systems I | R |  | 5 |  |  |  |  |
|   | Explorations: Humanities ( Philosophy) | R SE |   |   | 5 |   |  |  |
| Tab. Electrical and Electronics Engineering (continued) |
| Year; Semester | Course(Department, Number, Title)List all courses in the program by term starting with the first term of the first year and ending with the last term of the final year | Indicate Whether Course is Required, Elective or a Selected Elective by an R, an E or an SE. 1 | Subject Area (Credit Hours) | Last Two Terms the Course was Offered; Year and, Semester, or Quarter | Maximum Section Enrollment for the Last Two Terms the Course was Offered 2 |
| Math & Basic Science | Engineering Topics Check if Contains Significant Design () | General Education | Other |
| 3;2 | Electrical and Magnetic Fields for Engineers | R |   | 5 |   |   |  |  |
|   | Linear Systems and Signal Theory | R |  | 5 |  |  |  |  |
|  | Power systems II | R |  | 5 |  |  |  |  |
|  | Digital System Design | R |  | 5 |  |  |  |  |
|   | Explorations: Mathematics in Science and Art | SE |  |  | 5 |  |  |  |
|  | European Institutions(European values) | R |  |   | 5 |  |  |  |
| 4;1 | Antennas and EM Wave Propagation | R |   | 5 |   |   |  |  |
|   | Electrical Devices and Sensor Systems | R |  | 5 () |  |  |  |  |
|   | Explorations: Microeconomics of Competitiveness | R |  |  | 5 |   |  |  |
|  | Electrical Materials and Devices | R |  | 5 |  |  |  |  |
|  | PRE Senior Design Project | R |  | 2 |  |  |  |  |
|  | From Elective Labs | E |  | 3 () |  |  |  |  |
|  | From Elective Labs | E |  | 3 () |  |  |  |  |
| 4;2 | Senior Design Project | R |   | 8() |   |   |  |  |
|   | Applied Electrodynamics | R |  | 5 |   |   |  |  |
| From Elective Courses  | E |  | 5 () |   |   |  |  |
| From Elective Courses | E |  | 5 () |  |  |  |  |
| From Elective Courses | E |  | 5 () |  |  |  |  |
|  |
| TOTALS-ABET BASIC-LEVEL REQUIREMENTS | 61 | 109 | 70 |   |   |   |
| OVERALL TOTAL CREDIT HOURS FOR COMPLETION OF THE PROGRAM = 240 |   |   |   |   |   |   |
| Must satisfy one set | Minimum semester credit hours |  |  |   |   |   |   |
| Minimum percentage |  |  |   |   |   |   |
|  |  |  |  |  |   |   |   |   |

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| **Elective Courses** |
|  | Multicore Programming | 5 |
|  | Microprocessors | 5 |
|  | Device Control Laboratory | 3 |
|  |  Remote Laboratory | 3 |
|  | Embedded OS Laboratory | 3 |
|  | Biomedical Electronic Equipment | 5 |
|  | Computer Modeling and Data Visualization | 5 |
|  | Energy conversion and alternative source of energy | 5 |
|  | Embedded SW | 5 |
|  | Embedded Communication | 5 |
|  | Metrology | 5 |