



CURRICULUM

Professional orientation: **Electrical Engineering, Electronics And Automation**

Program: **Electrical Engineering and Renewable Energy Sources**

Professional qualification: **Electrical Engineer**

Educational and qualificational degree: **Bachelor**

Form of study: **Full - Time**

Term of study: **4 years / 8 semesters**

| No | Subject Name | Types of term control | | | | Semester auditorium load | | | | | Unsupervised load | Total work hours | ECTS credits |
|----------------------------------|--|-----------------------|----------|----|----------|--------------------------|-----------|------------|-----------|------------|-------------------|------------------|--------------|
| | | E | PA | CP | A | L | S | L | CP CPR | Total | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 1 | Mathematics, part 1 | 1 | | | | 15 | 45 | | | 60 | 115 | 175 | 7 |
| 2 | Physics | 1 | | | | 30 | | 30 | | 60 | 115 | 175 | 7 |
| 3 | Computer Technologies | | 1 | | | 15 | | 30 | | 45 | 105 | 150 | 6 |
| 4 | Technical Documentation | | 1 | | | 15 | | 30 | | 45 | 105 | 150 | 6 |
| 5 | Practical Mathematics, part 1 | | | | 1 | | | 15 | | 15 | 15 | 30 | 1 |
| 6 | English, part 1 | | | | 1 | | 30 | | | 30 | 30 | 60 | 2 |
| 7 | Elective Subject | | | | 1 | | | | | | 30 | 30 | 1 |
| 7a | Specialized Sport Activities, part 1 | | | | 1 | | | | | | 30 | 30 | 1 |
| 7b | Sport and Social Adaptation, part 1 | | | | 1 | | | | | | 30 | 30 | 1 |
| 8 | Practical Training, part 1 | | | | 1 | | | | | | 30 | 30 | 1 |
| Total for the 1 semester: | | 2 | 2 | | 4 | 75 | 75 | 105 | | 255 | 545 | 800 | 31 |
| 9 | Mathematics, part 2 | 2 | | | | 30 | 15 | | 15 | 60 | 115 | 175 | 7 |
| 10 | Theoretical Electrical Engineering, part 1 | 2 | | | | 30 | 15 | 15 | | 60 | 90 | 150 | 6 |
| 11 | Materials in Electrical Engineering | 2 | | | | 30 | | 15 | | 45 | 80 | 125 | 5 |
| 12 | Technical Mechanics | 2 | | | | 30 | 15 | | | 45 | 105 | 150 | 6 |
| 13 | Practical Mathematics, part 2 | | | | 2 | | | 15 | | 15 | 15 | 30 | 1 |
| 14 | English, part 2 | | | | 2 | | 30 | | | 30 | 30 | 60 | 2 |
| 15 | Practical Training, part 2 | | | | 2 | | | | | | 60 | 60 | 2 |
| 16 | Elective Subject | | | | 2 | | | | | | 30 | 30 | 1 |
| 16a | Specialized Sport Activities, part 2 | | | | 2 | | | | | | 30 | 30 | 1 |
| 16b | Sport and Social Adaptation, part 2 | | | | 2 | | | | | | 30 | 30 | 1 |
| Total for the 2 semester: | | 4 | | | 4 | 120 | 75 | 45 | 15 | 255 | 525 | 780 | 30 |
| 17 | MATLAB Introduction | | 3 | | | 15 | 15 | 30 | | 60 | 90 | 150 | 6 |
| 18 | Practical Material Science | | | | 3 | | | 15 | | 15 | 15 | 30 | 1 |
| 19 | Theoretical Electrical Engineering, part 2 | 3 | | | | 30 | 15 | 15 | | 60 | 115 | 175 | 7 |
| 20 | Electronics | 3 | | | | 30 | | 30 | | 60 | 115 | 175 | 7 |
| 21 | Electrical Measurements | 3 | | | | 30 | | 30 | | 60 | 90 | 150 | 6 |
| 22 | Practical Training, part 3 | | | | 3 | | | | | | 30 | 30 | 1 |
| 23 | English, part 3 | | 3 | | | | 30 | | | 30 | 30 | 60 | 2 |

| No | Subject Name | Types of term control | | | | Semester auditorium load | | | | | Unsupervised load | Total work hours | ECTS credits |
|----------------------------------|---|-----------------------|----------|----|----------|--------------------------|-----------|------------|--------|------------|-------------------|------------------|--------------|
| | | E | PA | CP | A | L | S | L | CP CPR | Total | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 24 | Elective Subject | | | | 3 | | | | | | 30 | 30 | 1 |
| 24a | Specialized Sport Activities, part 3 | | | | 3 | | | | | | 30 | 30 | 1 |
| 24b | Sports Management, part 1 | | | | 3 | | | | | | 30 | 30 | 1 |
| Total for the 3 semester: | | 3 | 2 | | 3 | 105 | 60 | 120 | | 285 | 515 | 800 | 31 |
| 25 | Automated Production Systems | 4 | | | | 30 | | 30 | | 60 | 115 | 175 | 7 |
| 26 | Thermal Processes in Electrical Engineering | | 4 | | | 15 | 30 | 15 | | 60 | 115 | 175 | 7 |
| 27 | Electrotechnology | 4 | | | | 30 | | 30 | | 60 | 115 | 175 | 7 |
| 28 | Renewable Energy Sources | 4 | | | | 30 | | 30 | | 60 | 115 | 175 | 7 |
| 29 | Elective Subject | | | | 4 | | | | | | 30 | 30 | 1 |
| 29a | Specialized Sport Activities, part 4 | | | | 4 | | | | | | 30 | 30 | 1 |
| 29b | Sports Management, part 2 | | | | 4 | | | | | | 30 | 30 | 1 |
| 30 | Practical Training, part 4 | | | | 4 | | | | | | 30 | 30 | 1 |
| Total for the 4 semester: | | 3 | 1 | | 2 | 105 | 30 | 105 | | 240 | 520 | 760 | 30 |
| 31 | Technical Safety | | 5 | | | 30 | | 15 | | 45 | 105 | 150 | 6 |
| 32 | Electrical Machines, part 1 | 5 | | | | 30 | | 30 | | 60 | 115 | 175 | 7 |
| 33 | Electrothermics | 5 | | | | 30 | | 30 | | 60 | 65 | 125 | 5 |
| 34 | Electrical Apparatus, part 1 | 5 | | | | 30 | | 30 | | 60 | 115 | 175 | 7 |
| 35 | Household Electrical Appliances | | 5 | | | 30 | | 30 | | 60 | 65 | 125 | 5 |
| 36 | Elective Subject | 5 | | | | 30 | | 30 | | 60 | 65 | 125 | 5 |
| 36a | Wind Plants and Systems | 5 | | | | 30 | | 30 | | 60 | 65 | 125 | 5 |
| 36b | Lighting and Installation Equipment | 5 | | | | 30 | | 30 | | 60 | 65 | 125 | 5 |
| Total for the 5 semester: | | 4 | 2 | | | 180 | | 165 | | 345 | 530 | 875 | 35 |
| 37 | Electrical Machines, part 2 | 6 | | | | 30 | | 30 | | 60 | 115 | 175 | 7 |
| 38 | Electrical Apparatus, part 2 | 6 | | | | 30 | | 30 | | 60 | 115 | 175 | 7 |
| 39 | Contactless Devices and Transducers | 6 | | | | 30 | | 30 | | 60 | 90 | 150 | 6 |
| 40 | Elective Subject | 6 | | | | 30 | | | | 30 | 45 | 75 | 3 |
| 40a | Design of Renewable Energy Sources Equipment | 6 | | | | 30 | | | | 30 | 45 | 75 | 3 |
| 40b | Design of Electrical Devices | 6 | | | | 30 | | | | 30 | 45 | 75 | 3 |
| 41 | Computer Simulation of Electrical Devices | | 6 | | | 30 | | 30 | | 60 | 65 | 125 | 5 |
| 42 | Electrical Power Engineering | | 6 | | | 30 | | 30 | | 60 | 65 | 125 | 5 |
| 43 | Special Practice | | | | 6 | | | | | | 60 | 60 | 2 |
| Total for the 6 semester: | | 4 | 2 | | 1 | 180 | | 150 | | 330 | 555 | 885 | 35 |
| 44 | Electrical Micromachines | | 7 | | | 15 | | 30 | | 45 | 80 | 125 | 5 |
| 45 | Elective Subject | 7 | | | | 30 | | 30 | | 60 | 90 | 150 | 6 |
| 45a | Switchgear Apparatus for Renewable Energy Sources | 7 | | | | 30 | | 30 | | 60 | 90 | 150 | 6 |
| 45b | Electric Cars | 7 | | | | 30 | | 30 | | 60 | 90 | 150 | 6 |
| 46 | Elective Subject | 7 | | | | 30 | | 30 | | 60 | 90 | 150 | 6 |
| 46a | Photovoltaic Systems and Power Plant | 7 | | | | 30 | | 30 | | 60 | 90 | 150 | 6 |
| 46b | Electronic Equipment for Control and Protection | 7 | | | | 30 | | 30 | | 60 | 90 | 150 | 6 |
| 47 | Elective Subject | | | 7 | | | | | 30 | 30 | 30 | 60 | 2 |
| 47a | Renewable Energy Sources Equipment Project | | | 7 | | | | | 30 | 30 | 30 | 60 | 2 |
| 47b | Design of Electrical Devices, project | | | 7 | | | | | 30 | 30 | 30 | 60 | 2 |
| 48 | Elective Subject | | 7 | | | 30 | | 15 | | 45 | 105 | 150 | 6 |
| 48a | Special Course of Renewable Energy Sources | | 7 | | | 30 | | 15 | | 45 | 105 | 150 | 6 |
| 48b | Electrical Systems in Cars | | 7 | | | 30 | | 15 | | 45 | 105 | 150 | 6 |
| 49 | Electrical Apparatus, part 3 | 7 | | | | 30 | | 30 | | 60 | 90 | 150 | 6 |

| No | Subject Name | Types of term control | | | | Semester auditorium load | | | | | Unsuper vised load | Total work hours | ECTS credits |
|--|--|-----------------------|-----------|----------|-----------|--------------------------|------------|------------|------------|-------------|--------------------|------------------|--------------|
| | | E | PA | CP | A | L | S | L | CP CPR | Total | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| Total for the 7 semester: | | 3 | 2 | 1 | | 135 | | 135 | 30 | 300 | 485 | 785 | 31 |
| 50 | Exploitation and Diagnostics of Electrical Equipment | 8 | | | | 30 | 15 | 15 | | 60 | 90 | 150 | 6 |
| 51 | Reliability in Electrical Engineering | 8 | | | | 30 | | 30 | | 60 | 65 | 125 | 5 |
| 52 | Electromechanical Systems | 8 | | | | 30 | | 30 | | 60 | 90 | 150 | 6 |
| 53 | Complex Project | | | 8 | | | | | 60 | 60 | 60 | 120 | 4 |
| Total for the 8 semester: | | 3 | | 1 | | 90 | 15 | 75 | 60 | 240 | 305 | 545 | 21 |
| Total for all courses of education: | | 26 | 11 | 2 | 14 | 990 | 255 | 900 | 105 | 2250 | 3980 | 6230 | 244 |

Facultative subjects

| No | Subject Name | Types of term control | | | | Semester auditorium load incl: | | | | | Unsuper-vised load | Total work hours | ECTS credits |
|----|--------------|-----------------------|----|----|---|--------------------------------|---|---|--------|-------|--------------------|------------------|--------------|
| | | E | PA | CP | A | L | S | L | CP CPR | Total | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

| Types of graduation | Semester | Unsupervised load | ECTS credits |
|---|----------|-------------------|--------------|
| Preparation of Diploma Thesis / Preparation for State Examination | 8 | 300 | 10 |
| Defence of Diploma Thesis / State Examination | 8 | | |
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Accepted from AU with

Protocol No 41 / 22.04.2019

Valid from the 2017 / 2018 academic year.

The weekly allocation of the classes is fixed according to the "Structure of the Learning Process" Academic Board adopted for the current academic year.

Head of Department EEET:

/ Assoc. Prof. PhD Aprahamyan B. /

Dean of Faculty FEE:

/ Assoc. Prof. PhD Yordanova M. /