INTERNATIONAL UNIVERSITY TRAVNIK
FACULTY OF POLYTECHNIC SCIENCES TRAVNIK
DEPARTMENT: ELECTRICAL ENGINEERING

TEACHINGPLAN AND THE PROGRAM

For I the cycle

- ELECTRICAL ENERGY -
- COMPUTER SCIENCES AND INFORMATICS –
- TELECOMUNICATIONS -

Academic year 2022/2023

Travnik, 2022.

Model:3+2

Direction:ELECTRICAL ENERGY

Ordinal	Case	Number hours	ECTS
And the semester			
1.	MathematicsAND	3+2	6
2.	The basicselectrical engineering	3+2	6
3.	Linear algebraand geometry	3+2	6
4.	Basics of computer science	3+2	6
5.	Electronic elementsand circuits	3+2	6
In totalECTS I semester			30
II semester			
6.	Mathematics II	3+2	6
7.	Electric circuitsAND	3+2	6
8.	Physics	3+2	6
9.	Programming techniques	3+2	6
10.	Electrical measurements	3+2	6
In totalECTS II semester			30
In totalECTS I year			**60**

Ordinal	Case	Number hours	ECTS
III semester			
11.	Engineering Electromagnetics	3+2	6
12.	Electric circuits II	3+2	6
13.	Electrotechnical materials	3+2	6
14.	The basicspower systems	3+2	6
15.	English language	3+2	6
In totalECTS III semester			30
IV semester			
16.	Basics of telecommunications	3+2	6
17.	Basics of automatic control system	3+2	6
18.	Engineering economics	3+2	6
19.	Reliability of electrical elementsand system	3+2	6
20.	Electricmachines	3+2	6
In totalECTS IV semester			30
In totalECTS II year			**60**

Ordinal	Case	Number hours	ECTS
V semester			
21.	Power electronics	3+2	8
22.	Electric power systemsAND	3+2	8
23.	High voltage insulation technology	3+2	7
24.	ELECTORALSUBJECT 1		7
In totalECTS V semester			30
VI semester			
25.	Electrical productionenergy	3+2	7
26.	ELECTORALSUBJECT 2	3+2	7
27.	PROFESSIONAL PRACTICE		6
28.	CLOSINGWORK		10
In totalECTS VI semester			30
In totalECTS III year			**60**

Ordinal	Case	Number hours	ECTS
Elective course1			
1.	Electrical installations	3+2	7
2.	Maintenanceelectrical systems	3+2	7
3.	Electrical installationsand security measures	3+2	7
Elective course2			
1.	Electromotivedrives	3+2	7
2.	The basicsmechatronics	3+2	7
3.	Database	3+2	7

Model:4+1

Direction:ELECTRICAL ENERGY

Ordinal	Case	Number hours	ECTS
And the semester			
1.	MathematicsAND	3+2	6
2.	The basicselectrical engineering	3+2	6
3.	Linear algebraand geometry	3+2	6
4.	Basics of computer science	3+2	6
5.	Electronic elementsand circuits	3+2	6
In totalECTS I semester			30
II semester			
6.	Mathematics II	3+2	6
7.	Electric circuitsAND	3+2	6
8.	Physics	3+2	6
9.	Programming techniques	3+2	6
10.	Electrical measurements	3+2	6
In totalECTS II semester			30
In totalECTS I year			**60**

Ordinal	Case	Number hours	ECTS
III semester			
11.	Engineering Electromagnetics	3+2	6
12.	Electric circuits II	3+2	6
13.	Electrotechnical materials	3+2	6
14.	The basicspower systems	3+2	6
15.	English language	3+2	6
In totalECTS III semester			30
IV semester			
16.	Basics of telecommunications	3+2	6
17.	Basics of automatic control system	3+2	6
18.	Engineering economics	3+2	6
19.	Reliability of electrical elementsand system	3+2	6
20.	Electricmachines	3+2	6
In totalECTS IV semester			30
In totalECTS II year			**60**

Ordinal	Case	Number hours	ECTS
V semester			
21.	Power electronics	3+2	8
22.	Electric power systemsAND	3+2	8
23.	High voltage insulation technology	3+2	7
24.	ELECTORALSUBJECT 1	3+2	7
In totalECTS V semester			30
VI semester			
25.	Electrical productionenergy	3+2	7
26.	Electric power systems II	3+2	8
27.	Electromotivedrives	3+2	7
28.	ELECTORALSUBJECT 2	3+2	8
In totalECTS VI semester			30
In totalECTS III year			**60**

Ordinal	Case	Number of	ECTS
VII semester			
29.	Mathematics III	3+2	7
30.	Electrical installations	3+2	7
31.	Analysis of power systems	3+2	8
32.	Electromotivedrives and dynamics of electrical machines	3+2	8
In totalECTS VII semester			30
VIII semester			
33.	Methodology of engineering design	3+2	7
34.	Overvoltagesand isolation coordination	3+2	7
35.	ELECTORALSUBJECT 3	3+2	6
36.	CLOSINGWORK		10
In totalECTS VIII semester			30
In totalECTS IV year			**60**

Ordinal	Case	Number hours	ECTS
Elective course1			
1.	Engineeringin environmental protection	3+2	7
2.	Maintenanceelectrical systems	3+2	7
3.	Electrical installationsand security measures	3+2	7
Elective course2			
1.	Electrical systemsin transport	3+2	8
2.	Renewable energy sources	3+2	8
3.	Mobile telecommunications	3+2	8
4.	Basics of mechatronics	3+2	8
Elective course3			
1.	Electrical qualityenergy	3+2	6
2.	Object orientedinformation technology	3+2	6
3.	High voltage technique	3+2	6
4.	Database	3+2	6

Model:3+2

Direction:COMPUTER SCIENCE AND INFORMATICS

Ordinal	Case	Number hours	ECTS
And the semester			
1.	MathematicsAND	3+2	6
2.	The basicselectrical engineering	3+2	6
3.	Linear algebraand geometry	3+2	6
4.	Basics of computer science	3+2	6
5.	Electronic elementsand circuits	3+2	6
In totalECTS I semester			30
II semester			
6.	Mathematics II	3+2	6
7.	Electric circuitsAND	3+2	6
8.	Physics	3+2	6
9.	Programming techniques	3+2	6
10.	Operating systems	3+2	6
In totalECTS II semester			30
In totalECTS I year			**60**

Ordinal	Case	Number hours	ECTS
III semester			
11.	Discrete mathematics	3+2	6
12.	Architecture of information systems	3+2	6
13.	Development of software products	3+2	6
14.	Algorithmsand data structures	3+2	6
15.	English language	3+2	6
In totalECTS III semester			30
IV semester			
16.	Logical design	3+2	6
17.	Object-oriented information technologies	3+2	6
18.	Basics of information systems	3+2	6
19.	Web technologies	3+2	6
20.	Computergraphics	3+2	6
In totalECTS IV semester			30
In totalECTS II year			**60**

Ordinal	Case	Number hours	ECTS
V semester			
21.	Operational research	3+2	8
22.	Information systems	3+2	8
23.	Basics of computer networks	3+2	7
24.	ELECTORALSUBJECT 1		7
In totalECTS V semester			30
VI semester			
25.	Database	3+2	7
26.	ELECTORALSUBJECT 2	3+2	7
27.	PROFESSIONAL PRACTICE		6
28.	CLOSINGWORK		10
In totalECTS VI semester			30
In totalECTS III year			**60**

Ordinal	Case	Number hours	ECTS
Elective course1			
1.	Software engineering	3+2	7
2.	Electronic business	3+2	7
3.	Artificial intelligence	3+2	7
Elective course2			
1.	System programming	3+2	7
2.	Resource optimization	3+2	7
3.	CHAD– CAM engineering	3+2	7

Model:4+1

Direction:COMPUTER SCIENCE AND INFORMATICS

Ordinal	Case	Number hours	ECTS
And the semester			
1.	MathematicsAND	3+2	6
2.	The basicselectrical engineering	3+2	6
3.	Linear algebraand geometry	3+2	6
4.	Basics of computer science	3+2	6
5.	Electronic elementsand circuits	3+2	6
In totalECTS I semester			30
II semester			
6.	Mathematics II	3+2	6
7.	Electric circuitsAND	3+2	6
8.	Physics	3+2	6
9.	Programming techniques	3+2	6
10.	Operating systems	3+2	6
In totalECTS II semester			30
In totalECTS I year			**60**

Ordinal	Case	Number hours	ECTS
III semester			
11.	Discrete mathematics	3+2	6
12.	Information architecturesystem	3+2	6
13.	Development of software products	3+2	6
14.	Algorithmsand data structures	3+2	6
15.	English language	3+2	6
In totalECTS III semester			30
IV semester			
16.	Logical design	3+2	6
17.	Object-oriented information technologies	3+2	6
18.	Basics of information systems	3+2	6
19.	Web technologies	3+2	6
20.	Computergraphics	3+2	6
In totalECTS IV semester			30
In totalECTS II year			**60**

Ordinal	Case	Number hours	ECTS
V semester			
21.	Operational research	3+2	8
22.	Information systems	3+2	8
23.	Basics of computer networks	3+2	7
24.	ELECTORALSUBJECT 1	3+2	7
In totalECTS V semester			30
VI semester			
25.	Database	3+2	7
26.	Multimedia systems	3+2	8
27.	Parallel computer systems	3+2	8
28.	ELECTORALSUBJECT 2	3+2	7
In totalECTS VI semester			30
In totalECTS III year			**60**

Ordinal	Case	Number hours	ECTS
VII semester			
29.	Software engineering	3+2	7
30.	Artificial intelligence	3+2	7
31.	Computernetworks	3+2	8
32.	Practicum– advanced web technologies	3+2	8
In totalECTS VII semester			30
VIII semester			
33.	System programming	3+2	7
34.	Resource optimization	3+2	7
35.	ELECTORALSUBJECT 3	3+2	6
36.	CLOSINGWORK		10
In totalECTS VIII semester			30
In totalECTS IV year			**60**

Ordinal	Case	Number hours	ECTS
Elective course1			
1.	Recognitionshape and image processing	3+2	7
2.	Electronic business	3+2	7
3.	Engineeringin environmental protection	3+2	7
Elective course2			
1.	Reliabilityand software quality control	3+2	7
2.	Statistics	3+2	7
3.	CHAD– CAM engineering	3+2	7
Elective course3			
1.	Engineering economics	3+2	6
2.	Automation of business processes	3+2	6
3.	Basics of telecommunications	3+2	6

Model:3+2

Direction:TELECOMUNICATI ONS

Ordinal	Case	Number hours	ECTS
And the semester			
1.	MathematicsAND	3+2	6
2.	The basicselectrical engineering	3+2	6
3.	Linear algebraand geometry	3+2	6
4.	Basics of computer science	3+2	6
5.	Electronic elementsand circuits	3+2	6
In totalECTS I semester			30
II semester			
6.	Mathematics II	3+2	6
7.	Electric circuitsAND	3+2	6
8.	Physics	3+2	6
9.	Programming techniques	3+2	6
10.	Theory of electromagnetic fields	3+2	6
In totalECTS II semester			30
In totalECTS I year			**60**

Ordinal	Case	Number hours	ECTS
III semester			
11.	Electronics of telecommunications	3+2	6
12.	Electric circuits II	3+2	6
13.	Information theoryand native coding	3+2	6
14.	Signal theory	3+2	6
15.	English language	3+2	6
In totalECTS III semester			30
IV semester			
16.	Statistical theory of signals	3+2	6
17.	Antennasand wave propagation	3+2	6
18.	Telecommunication techniques	3+2	6
19.	Radio engineering	3+2	6
20.	Basics of optoelectronics	3+2	6
In totalECTS IV semester			30
In totalECTS II year			**60**

Ordinal	Case	Number hours	ECTS
V semester			
21.	Channel coding	3+2	8
22.	Microwave communication systems	3+2	8
23.	Switching systems	3+2	8
24.	ELECTORALSUBJECT 1	3+2	6
In totalECTS V semester			30
VI semester			
25.	Mobile telecommunications	3+2	8
26.	ELECTORALSUBJECT 2	3+2	6
27.	PROFESSIONAL PRACTICE		6
28.	CLOSINGWORK		10
In totalECTS VI semester			30
In totalECTS III year			**60**

Ordinal	Case	Number hours	ECTS
Elective course1			
1.	Management of telecommunication networks	3+2	6
2.	The basicspower systems	3+2	6
3.	Measurementsin telecommunications	3+2	6
Elective course2			
1.	Engineering economics	3+2	6
2.	Operating systems	3+2	6
3.	Object orientedinformation technology	3+2	6

Model:4+1

Direction:TELECOMUNICATI ONS

Ordinal	Case	Number hours	ECTS
And the semester			
1.	MathematicsAND	3+2	6
2.	Fundamentals of Electrical Engineering	3+2	6
3.	Linear algebraand geometry	3+2	6
4.	Basics of computer science	3+2	6
5.	Electronic elementsand circuits	3+2	6
In totalECTS I semester			30
II semester			
6.	Mathematics II	3+2	6
7.	Electric circuitsAND	3+2	6
8.	Physics	3+2	6
9.	Programming techniques	3+2	6
10.	Theory of electromagnetic fields	3+2	6
In totalECTS II semester			30
In totalECTS I year			**60**

Ordinal	Case	Number hours	ECTS
III semester			
11.	Electronics of telecommunications	3+2	6
12.	Electric circuits II	3+2	6
13.	Information theoryand native coding	3+2	6
14.	Signal theory	3+2	6
15.	English language	3+2	6
In totalECTS III semester			30
IV semester			
16.	Stopstic signal theory	3+2	6
17.	Antennasand wave propagation	3+2	6
18.	Telecommunication techniques	3+2	6
19.	Radio engineering	3+2	6
20.	Basics of optoelectronics	3+2	6
In totalECTS IV semester			30
In totalECTS II year			**60**

Ordinal	Case	Number hours	ECTS
V semester			
21.	Channel coding	3+2	8
22.	Microwave communication systems	3+2	8
23.	Switching systems	3+2	8
24.	ELECTORALSUBJECT 1	3+2	6
In totalECTS V semester			30
VI semester			
25.	Mobile telecommunications	3+2	8
26.	Communication protocolsand networks	3+2	8
27.	Process simulationin the telecommunications channel	3+2	8
28.	ELECTORALSUBJECT 2	3+2	6
In totalECTS VI semester			30
In totalECTS III year			**60**

Ordinal	Case	Number hours	ECTS
VII semester			
29.	Architectures of packet hubs	3+2	8
30.	Optical telecommunication systems	3+2	7
31.	Cryptographyand system security	3+2	8
32.	Managementquality of telecommunication services	3+2	7
In totalECTS VII semester			30
VIII semester			
33.	Advanced chapters fromsignal processing	3+2	7
34.	Network multimedia services	3+2	7
35.	ELECTORALSUBJECT 3	3+2	6
36.	CLOSINGWORK		10
In totalECTS VIII semester			30
In totalECTS IV year			**60**

Ordinal	Case	Number hours	ECTS
Elective course1			
1.	Management of telecommunication networks	3+2	6
2.	The basicspower systems	3+2	6
3.	Measurementsin telecommunications	3+2	6
Elective course2			
1.	Engineering economics	3+2	6
2.	Operating systems	3+2	6
3.	Object orientedinformation technology	3+2	6
Elective course3			
1.	Electrotechnical materials	3+2	6
2.	Basics of automatic control system	3+2	6
3.	Telecommunicationsoftware engineering	3+2	6