

Transilvania University of Braşov, Romania

Study program: Engineering of Renewable Energy Systems

Faculty: Product Design and Environment
 Study period: 2023-2024
 Academic year structure: 2 semesters (14 weeks per semester)
 Examination sessions (two): winter session (January/February)
 summer session (June/July)

(C= course; S = seminar; L = laboratory; P = project)

1st Year

No. crt.	Course	Code	Language of instruction	1 st Semester					2 nd Semester					
				C	S	L	P	Cred	C	S	L	P	Cred	
01	Mathematical analysis	DIAM01	Romanian	2	3			5						
02	Chemistry	DICH01	Romanian	2		1		4						
03	Computer programming and Programming Languages I	DIPC01	Romanian	1		3		4						
04	Computer assisted graphics I	DIGA01	Romanian	2		4		6						
05	Materials science and engineering	DISM01	Romanian	3		2		5						
06	Renewable energy systems	DISER01	Romanian	1		1		3						
07	Linear algebra, analytical and differential geometry	DIAG02	Romanian						2	2				5
08	Computer programming and Programming Languages II	DIPC02	Romanian						1		3			4
09	Computer assisted graphics II	DIGA02	Romanian						1		3			5
10	Mechanics	DIMC02	Romanian						3	2				5
11	Physics	DIFZ02	Romanian						2	1	1			5
12	Communication	DICO02	Romanian						1	1				3
13	Modern languages (English, French)	LS01/02	Romanian	1	1			3	1	1				3
14	Physical education and sport	EF01/02	Romanian		1			1		1				1

2nd Year

No. crt.	Course	Code	Language of instruction	3 rd Semester					4 th Semester					
				C	S	L	P	Cred	C	S	L	P	Cred	
01	Special mathematics	DIMS03	Romanian	2	2			4						
02	Databases and statistical processing	DIBDPS	Romanian	1		1		4						
03	Numerical methods	DIMN03	Romanian	2	2			5						
04	Strength of materials	DIRM03	Romanian	3	1	2		5						
05	Mechanisms I	DIME03	Romanian	3		1	1	6						
06	Electrotechnics	DIEA03	Romanian	2		2		4						
07	Basis of computer-aided design	DIM3D	Romanian						1		3			3
08	Sustainable development	DIDD04	Romanian						2		1			3
09	Fluid mechanics and hydraulic machines	DIMF04	Romanian						2		1			3

10	Electrochemistry and corrosion	DIECO4	Romanian						3		1		4
11	Thermotechnics and thermal machines	DITMT04	Romanian						2		1		3
12	Mechanisms II and Machine elements	DIOM04	Romanian						3		1	1	5
13	Domain practical work	ERPR04	Romanian						90				4
14	Electrical machines and actuation	DIMEA04	Romanian						2		1		3
15	Modern languages (English, French)	LS03/04	Romanian	1	1			2	1	1			2
16	Physical education and sport	EF03/04	Romanian		1			1		1			1

3rd Year

No. crt.	Course	Code	Language of instruction	5 th Semester					6 th Semester					
				C	S	L	P	Cred	C	S	L	P	Cred	
01	Finite element method	DIMEF5	Romanian	2		3		5						
02	Product design and development	DIDPO5	Romanian	2			2	4						
03	Solar thermal systems	DISST05	Romanian	3		1	1	6						
04	Assisted modeling of mechanisms	DIMAS05	Romanian	3		2		6						
05	Machine elements II	DIOM05	Romanian	2			2	4						
06	Communication	DIDCO5	Romanian	1	1			2						
07	Photovoltaic systems	DISFO06	Romanian						2		2	1	5	
08	Conceptual design	DIDCO6	Romanian						2	2		2	5	
09	Wind systems	DISEO06	Romanian						2		1	1	5	
10	Micro-hydropower systems	DISMH06	Romanian						2		1	1	5	
11	Speciality practical work	PR06	Romanian						90				4	
12	Recyclable materials	DIMR05	Romanian	2		1		3						
13	Tolerances and dimensional control	DITCD06	Romanian						2		2		3	
14	Ecodesign	DIED09	Romanian						2			1	3	

4th Year

No. crt.	Course	Code	Language of instruction	7 th Semester					8 th Semester					
				C	S	L	P	Cred	C	S	L	P	Cred	
01	Measurement, command and control systems	DISMC07	Romanian	2		2		5						
02	Constructive design	DIDCO7	Romanian	2			4	5						
03	Hybrid systems and cogeneration	DISHC07	Romanian	2		2		5						
04	Biomass based energy systems	DISB07	Romanian	2		2		5						
05	Quality management	DIMC07	Romanian	2			1	3						
06	Energy audit	DIAE07	Romanian	2			1	3						
07	Detailed design (10 weeks)	DIDD08	Romanian						1	1			2	
08	Detailed design - Project (10 weeks)	DIDDP08	Romanian									2	2	
09	Project management (10 weeks)	DIMP08	Romanian						1			1	2	
10	Hydrogen technology (10 weeks)	DITH08	Romanian						2		1		2	
11	Waste management (10 weeks)	DIMD08	Romanian						1		1		2	
12	Systems maintenance (10 weeks)	DIMS08	Romanian						1	1			2	
13	Practical work for BSc Thesis elaboration (4 weeks x 22h/week)	DIPP08	Romanian						88				6	
14	BSc Diploma Project (10 weeks x 4h/week+4 weeks x 4 h/week)	DIEP08	Romanian									4	4	

15	Geothermal energy (10 weeks)	DIEG08	Romanian						2		2		3
16	Energy management (10 weeks)	DIME08	Romanian						2	2			3
17	Mechatronic products (10 weeks)	DIPM07	Romanian	2		1	1	4					
18	Management of environmental quality and audit (10 weeks)	DIMC08	Romanian						1	2			2