



*European
Polytechnical
University*

23 Sv. Sv. Kiril and
Metodiy Str.
2300 Pernik, Bulgaria
Tel. 00359 898751012

ENDORSED:

Rector of EPU: Prof. D-r Marin Marinov

„MASTER“ degree

Form of teaching: *full-time*

Duration of the programme: 1,5 years

Professional qualification: Master-engineer

PROFESSIONAL DIRECTION: 5.4. ENERGETICS

C U R R I C U L U M

OF THE SPECIALITY: SOLAR ENERGETICS (SE)

2019

PERNIK

www.epu.bg

I. TIME SCHEDULE

Semester	Auditoria Workload	Examinations	Practical Training	Industrial/Field Placement	Practice	Work on Diploma Thesis	Vacations	Total (Number of Weeks)
I	270	6	-	-	-	-	11	25
II	390	6	-	-	-	5	5	25
III	420	3					5	25

II. CURRICULUM

ECTS code:: (SE) TNo

- SE- “Solar energetics“
- T – type of degree: **B** – „Bachelor“, **M** – „Master“;
- No – serial number of the course;

Lectures (L), Seminar Exercises (SE), Lab Exercises (LE), Practical Training/Fieldwork (PT), Auditoria Workload (total) (AT), Self-Study (SS) per week

Exam (E), Continuous Assessment (CA); Project Work (PW), Coursework (CW), Course Tasks (CT),

COURSE STRUCTURE MASTER SOLAR ENERGETICS

Lectures (L), seminars (S), laboratory work (LW)

First Semester

N°	Subject	Signature	L	S	LW	Auditorium Total	Self-training	Total	Assessment	Credits
1	Heat energy accumulation.	SEM1	2	1	1	4	5	9	examination	5
2	Electronic energy converters and	SEM2	2	1	1	4	5	9	examination	5

	MPPT.									
3	Sun tracking systems.	SEM3	2	1	1	4	4	8	continuous assessments	5
4	Photo-chemical panels.	SEM4	2	1	1	4	5	9	examination	5
5	Solar automation.	SEM5	2	1	1	4	5	9	examination	5
6	Elective 1.	SEM6	2	1	1	4	5	9	examination	5
	Total		12	6	6	24	29	53		30

Elective courses:

1-1	Sertification of the solar system components	SEM6-1
1-2	Autonomous (small) PV systems	SEM6-2

Second Semester

N ^o	Subject	Signature	L	S	LW	Auditorium Total	Self- training	Total	Assessment	Credits
7	Combined PV/T panels.	SEM7	2	1	1	4	5	9	examination	5
8	Project Management.	SEM8	1	3	0	4	5	9	course project	5
9	Monitoring of solar systems.	SEM9	0	4	0	4	4	8	course project	5
10	Modelling and simulation of solar systems.	SEM10	1	3	0	4	5	9	course project	5
11	Concentrator solar panels and	SEM11	2	1	1	4	5	9	examination	5

	collectors.									
12	Elective 2.	SEM12	0	4	0	4	4	8	course project	5
	Total		6	16	2	24	28	52		30

Elective courses

2-1	Water distillation solar systems	SEM12-1
2-2	Passive buildings	SEM12-2

Third Semester

N ^o	Subject	Signature	L	S	L W	Auditorium Total	Self- training	Total	Assessment	Credits
13	Industrial Placement.	SEM13	0	0	10	10	10	20	examination s, continuous assessments	12
14	Thesis	SEM14	0	0	10	10	15	25	defence	15
15	Elective 3	SEM15	0	4	0	4	2	6	examination	3
	Total		0	4	20	24	27	51		30

Elective courses

3-1	Domestic systems for solar energy utilization	SEM15-1
3-2	Energy infrastructure design in solar fields	SEM15-2

II. BASIC PARAMETERS OF THE CURRICULUM

1. Duration of the programme - 1,5 years, 3 semesters
2. Auditorium work load according to the curriculum

Total - 1080 teaching hours.

In details:

Lectures - 270 teaching hours

Seminars - 390 teaching hours (учебни часа)

Laboratory work - 420 teaching hours

Practice before the thesis – 150 teaching hours

Industrial Placement - 150 teaching hours

3. Total number of subjects - 14

Diplom work - 1

4. Control

4.1. Examinations - 8.

4.2. Continuous assessments - 3 .

4.3. Course projects - 4 .

Head of the Program Green Energetics:

Prof. Ivan Petkov, DSci