



TECHNICAL UNIVERSITY - SOFIA

CURRICULUM

of

“MECHATRONIC SYSTEMS”

Professional Field:

5.1. Mechanical Engineering

Educational Degree:

Master

Professional qualification:

Master- Engineer

Training Duration:

1,5 years

Form of Education:

Full time

The training is executed in English

I. WEEKS OF ATTENDANCE:

Number of Weeks									
Course	Weeks of Study	Exam Sessions	Practical Training	Industrial Training	Specialized Practical Training	Diploma Project	State Exam	Holidays	Total
I	30	10	-	-	-	-	-	12	52
II	-	-	-	-	2	12+3	-	10	17

II. COURSE DESIGN:

ECTS subject code **T ME №**

- **T** – type of course: **B** for BEng, **M** for MEng;
- **MEC** – “Mechanical Engineering”;
- **№** – subsequent number of the subject;

lectures (L), tutorials (Tut), labs (Lab), Auditorium Total (AT), Self Study (SS) weekly;

exam (E), continuous assessment (CA), semester project (SP) / semester assignment (course work) (SA)

SEMESTER I

No	SUBJECT	Week load						Assessment				ECTS code	ECTS credits
		L	Tut	Lab	AT	SS	Total	E	CA	SP	SA		
1	Computer Integrated Design	2	0	2	4	5	9	1		1		MMEHS01	5
2	Dynamics in Mechatronic Systems	2	0	2	4	5	9	1				MMEHS02	5
3	Information Systems in Mechatronics and Robotics	2	0	2	4	5	9	1			1	MMEHS03	5
4	Micro Mechatronics	2	0	2	4	5	9	1				MMEHS04	5
5	Optional subject ** (list 1)	2	0	1	3	4	7		1			MMEHS05	5
6	Optional subject ** (list 2)	2	0	1	3	4	7		1			MMEHS06	5
	Total	12	0	10	22	28	50	4	2	1	1		30

SEMESTER II

No	SUBJECT	Week load						Assessment				ECTS code	ECTS credits
		L	Tut	Lab	AT	SS	Total	E	CA	SP	SA		
7	Intelligent systems in mechatronics	2	0	2	4	5	9	1				MMEHS07	5
8	Management of mechatronic systems and industrial networks	2	0	2	4	5	9	1				MMEHS08	5
9	Optional subject ** (list 3)	2	0	2	4	4	8		1	1*		MMEHS09	5
10	Optional subject ** (list 4)	2	0	2	4	4	8		1	1*		MMEHS10	5
11	Optional subject ** (list 5)	2	0	2	4	4	8		1	1*		MMEHS11	5
12	Optional subject ** (list 6)	2	0	2	4	4	8		1	1*		MMEHS12	5
	Total	12	0	12	24	26	50	2	4	1	0		30

SEMESTER III

12	Diploma project	Diploma defense	MMEH13	15
Total				15

NOTES:

1. The eligible subjects (pos. 5, 6, 9, 10, 11 and 12) are updated annually and adopted by the Faculty Council of the Faculty of mechanical engineering.

* **Students have to choose one course project.**

III. MAIN PARAMETERS OF THE CURRICULUM

1. Training duration: 1,5 years, 3 semesters.

2. Auditorium workload according to the curriculum:

Total: 690 h, of them:

Lectures: **360 h;**

Seminars: **0 h;**

Labs: **330 h.**

3. Total number of the subject positions: 12

3.1. Compulsory: 6

3.2. Optional: 6

4. Assessment:

4.1. Exams: 6

4.2. Continuous Assessments: 6

4.3. Semester Projects: 2

4.4. Semester Assignments: 1

5. Practice: 2 weeks.

LIST OF OPTIONAL SUBJECTS

LIST 1 (ECHTK =5)		
1	Process control and manufacturing automation	MMEHS5.1
2	Measuring systems I	MMEHS5.2

LIST 2 (ECHTK =5)		
1	Assembly automation	MMEHS6.1
2	Optic and laser devices	MMEHS6.2

LIST 3 (ECHTK =5)		
1	Mechatronic Systems Implementation in Discrete Mechanical Engineering	MMEHS9.1
2	Micromechanical Devices	MMEHS9.2

LIST 4 (ECHTK =5)		
1	Motion Control in Mechatronic Systems	MMEHS10.1
2	Precision and Reliability of Mechatronic Systems	MMEHS10.2

LIST 5 (ECHTK =5)		
1	Computer Integrated Manufacturing	MMEHS11.1
2	Measuring Systems II	MMEHS11.2

LIST 6 (ECHTK =5)		
1	Non destructive control	MMEHS12.1
2	Composite materials	MMEHS12.2

**DEAN of Faculty of Mechanical Engineering:
/ Prof. L. Dimitrov/**