

ROMANIA
‘VASILE ALECSANDRI’ UNIVERSITY OF BACAU
Faculty of Engineering
Calea Mărășești, Nr. 157, Bacău, 600115, Tel./Fax +40
234 580170
<http://inginerie.ub.ro>; e-mail: decaning@ub.ro



Field: Mechatronics and Robotics
Study programme: Mechatronics **2022– 2023 academic year**

CURRICULUM
1st year of study

No	Subject	Number of ECTS credits	Examination form	Semester
1	Mathematical analysis	4	WO	1
2	Linear algebra, analytic and differential geometry	4	WO	1
3	Chemistry	5	W	1
4	Computer programming and programming languages 1	7	W	1
5	Communication ethics	2	O	1
6	Materials science and engineering	5	W	1
7	Physical education and sports 1	1	P/F	1
8	English for engineering 1/French for engineering 1	2	O	1
9	Special mathematics	4	WO	2
10	Physics	4	WO	2
11	Computer graphics 1	5	O	2
12	Computer programming and programming languages 2	6	O	2
13	Mechanics	3	W	2
14	Materials technology	4	W	2
15	Physical education and sports 2	1	P/F	2
16	English for engineering 2/French for engineering 2	2	O	2
17	General economics	1	O	2

W- written exam

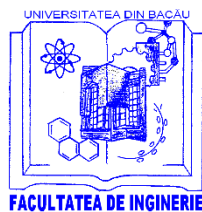
O – oral exam

WO- written and oral exam

P/F- pass/fail

Dean,
 Assoc. Prof. Ph.D. Eng. Mirela Panainte-Leh du

Head of Department,
 Senior lecturer Ph.D.Eng. Catalin Drob



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CURRICULUM 2nd year of study

No	Subject	Number of ECTS credits	Examination form	Semester
1	Computer graphics 2	3	O	1
2	Strength of materials	4	WO	1
3	Mechanisms	4	W	1
4	Tolerance and dimensional control	5	WO	1
5	Thermotechnics	3	O	1
6	Electrotechnics and electronics	3	W	1
7	English for engineering 3/French for engineering 3	2	O	1
8	Physical education and sports 3	1	P/F	1
9	Digital electronics	5	O	1
10	Mechanical vibration	4	W	2
11	Machine elements	4	W	2
12	Fluid mechanics	4	W	2
13	Measurement of electrical and non-electrical quantities	3	W	2
14	Power electronics	3	O	2
15	Human resource management	3	O	2
16	Systems theory and automated adjustment	3	W	2
17	English for engineering 4/French for engineering 4	2	O	2
18	Training, 3 weeks x 30 hours	4	O	2

W- written exam

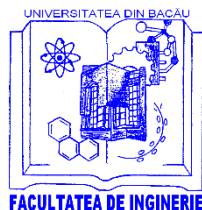
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CURRICULUM
3rd year of study

No	Subject	Number of ECTS credits	Examination form	Semester
1	Mechanical structures for mechatronics	4	W	1
2	Industrial environment engineering and protection	4	O	1
3	Microprocessors	4	WO	1
4	Acquisition systems, virtual interference and instrumentation	4	W	1
5	Risks and industrial safety	3	O	1
6	Sensors and sensory systems	4	W	1
7	Computer-assisted design	4	O	1
8	Artificial intelligence	3	O	1
9	Machine tools and metalworking	4	W	2
10	Control systems in robotics	4	W	2
11	Manufacturing systems engineering	3	W	2
12	Electrical equipment	3	W	2
13	Digital computer architecture	3	WO	2
14	Electrical machines	4	O	2
15	Hydraulic and pneumatic automation	5	O	2
16	Training, 3 weeks x 30 hours	4	O	2

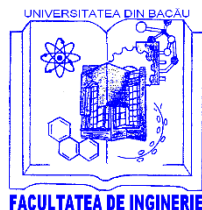
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CURRICULUM 4th year of study

No	Subject	Number of ECTS credits	Examination form	Semester
1	Robot components	5	W	1
2	Manufacturing technologies and micro--nanotechnologies	5	W	1
3	Optimization techniques	4	W	1
4	Technical creativity	2	O	1
5	Industrial informatics	4	W	1
6	Hydronics and pneutronics	3	W	1
7	Design and optimization in mechatronics	2	O	1
8	Reliability and maintenance	2	O	1
9	Quality engineering	3	O	1
10	Finite element analysis	3	O	2
11	Industrial process automation	3	W	2
12	Mechatronic systems design	3	W	2
13	Project management	3	O	2
14	Industrial logistics	3	O	2
15	Analysis and synthesis of digital devices	3	W	2
16	Preparing and writing the Bachelor final project	4	O	2
17	Ergonomics	4	W	2
18	Training for preparing and writing the Bachelor final project (2 weeks x 30 hours)	4	O	2

W- written exam

O – oral exam

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