

**ROMANIA**  
**‘VASILE ALECSANDRI’ UNIVERSITY OF BACAU**  
**Faculty of Engineering**  
**Calea Mărășești, Nr. 157, Bacău, 600115, Tel./Fax +40**  
**234 580170**



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**Field: Mechatronics and Robotics**  
**Study programme: Mechatronics**

**2023– 2024 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	2	O	1
6	Materials science and engineering	5	W	1
7	Physical education and sports 1	1	P/F	1
8	Technical English 1 / Technical French 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	Technical English 2 / Technical French 2	2	O	2
17	General economics	1	O	2

W- written exam

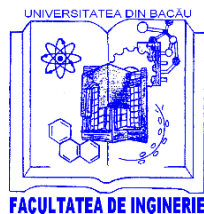
O – oral exam

WO- written and oral exam

P/F- pass/fail

Dean,  
 Assoc. Prof. Ph.D. Eng. Mirela Panainte-Lehăduș

Head of Department,  
 Assoc. Prof. 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	Technical English 3 / Technical French 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	Technical English 4 / Technical French 4	2	O	2
18	Training, 5 weeks x 30 hours	4	O	2

W- written exam

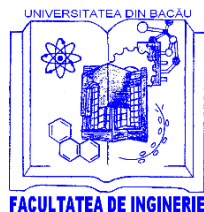
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**CURRICULUM**  
**3rd year of study**

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

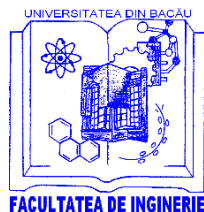
W- written exam

O – oral exam

WO- written and oral exam

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**2023 – 2024 academic year**

**CURRICULUM**  
**4th year of study**

No	Subject	Number of ECTS credits	Examination form	Semester
1	Robotics	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	2	W	2
13	Project management	3	O	2
14	Entrepreneurship	2	O	2
15	The Internet of Things	1	O	2
16	Analysis and synthesis of digital devices	3	W	2
17	Preparing and writing the Bachelor final project	4	O	2
18	Ergonomics	5	W	2
19	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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