„GHEORGHE ASACHI" TECHNICAL UNIVERSITY OF IASI
FACULTY OF MACHINE MANUFACTURING AND INDUSTRIAL MANAGEMENT
Level of qualification: **Bachelor studies**
Field of study: **Industrial Engineering**
Programme of Study: **Welding Engineering**
Conferred title: engineer degree
Study duration: 4 years, 240 ECTS
Form of education: *full-time*

CURRICULUM - 1st year of study

No.	Course name	Course code	Type	Prere-quisite	1st semester							2nd semester						
					No of hours				Hours	Ev	K	No of hours				Hours	Ev	K
					C	S	L	P	SI			C	S	L	P	SI		
1	Linear Algebra, Analytical and Differential Geometry	CMMI-L-1.01	MC	-	3	2	0	0	65	E	5							
2	Mathematical Analysis 1	CMMI-L-1.02	MC	-	2	1.5	0	0	59	E	4							
3	Computer Programming	CMMI-L-1.03	MC	-	1	0	2	0	39	E	3							
4	Descriptive Geometry and Technical Drawing 1	CMMI-L-1.04.a	MC	-	2	3	0	0	65	C	5							
5	Chemistry	CMMI-L-1.05	MC	-	1	0	1	0	26	C	2							
6	Materials Science	CMMI-L-1.06	MC	-	2.5	0	1.5	0	79	E	5							
7	Fundamentals of Economics	CMMI-L-1.07.a	MC	-	2	0	0	0	53	C	3							
8	Physical Training and Sports 1	CMMI-L-1.08	MC	-	0	1	0	0	13	C	1							
9	Professional Communication	CMMI-L-1.09	OC	-	2	0	0	0	26	C	2							
	History of Technics	CMMI-L-1.10	OC	-														
10	Mathematical Analysis 2	CMMI-L-2.01	MC	C1,C2								2.5	1.5	0	0	79	E	5
11	Computer-Aided Engineering Graphics and Applied Informatics	CMMI-L-2.02	MC	C3								1	0	4	0	65	C	5
12	Descriptive Geometry and Technical Drawing 2	CMMI-L-2.03	MC	C4								2	3	0	0	65	C	5
13	Theoretical Mechanics 1	CMMI-L-2.04	MC	C1,C2								4	1.5	1	0	71	E	6
14	Materials Technology	CMMI-L-2.05	MC	C5								2.5	0	1	0	59	E	4
15	Physical Training and Sports 2	CMMI-L-2.06	MC	-								0	1	0	0	13	C	1
16	Structured Programming Languages	CMMI-L-2.07	OC	-								1.5	0	1.5	0	66	E	4
	Object-Oriented Programming Languages	CMMI-L-2.08	OC	-														
17	Elementary Mathematics 1	CMMI-L-2.09	FC	-	0	3	0	0	39	C	3							
18	Psychology of Education	DPPD-SPU-01	FC	-	2	2	0	0	64	E	5							
19	Elementary Mathematics 2	CMMI-L-2.10	FC	-								0	2	0	0	53	C	3
20	Elements of Metric Spaces with Applications	CMMI-L-2.11	FC	-								2	2	0	0	79	C	5
21	Pedagogy 1	DPPD-SPU-02	FC	-								2	2	0	0	64	E	5
	Total hours per week, total evaluations				16	7.5	4.5	0	425	4E	**30**	13.5	7	7.5	0	418	4E	**30**
	and credits per semester					**28**				5C			**28**				3C	

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Prerequisites: C1 - Mathematical Analysis 1; **C2** - Linear Algebra, Analytical and Differential Geometry; **C3** - Computer Programming; **C4** - Descriptive Geometry and Technical Drawing 1; **C5** - Materials Science.

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Programme of Study: **Welding Engineering**
Conferred title: engineer degree
Study duration: 4 years, 240 ECTS
Form of education: *full-time*

CURRICULUM - 2nd year of study

No.	Course name	Course code	Type	Prere-quisite	1st semester							2nd semester						
					No of hours				Hours	Ev	K	No of hours				Hours	Ev	K
					C	S	L	P	SI			C	S	L	P	SI		
1	Special Mathematics	CMMI-L-3.01	MC	C1	2.5	1.5	0	0	52	E	4							
2	Computer-Aided Numerical Calculus	CMMI-IIND-3.02	MC	C1,C2	2	0	2	0	52	C	4							
3	Physics	CMMI-L-3.03	MC	C3	4	1.5	1.5	0	91	E	7							
4	Theoretical Mechanics 2	CMMI-IIND-3.04	MC	C3	1.5	0	1	0	46	C	3							
5	Strength of Materials 1	CMMI-L-3.05	MC	C3,C1	2.5	1	1	0	72	E	5							
6	Mechanisms	CMMI-L-3.06	MC	C3	2	1	1	0	79	E	5							
7	Physical Training and Sports 3	CMMI-L-3.07	MC	-	0	1	0	0	13	C	1							
8	English Language 1	CMMI-L-3.08	OC	-	0	1	0	0	13	C	1							
	French Language 1	CMMI-L-3.09	OC	-														
	German Language 1	CMMI-L-3.10	OC	-														
9	Strength of Materials 2	CMMI-L-4.01	MC	C4								2.5	2	0	0	45	E	4
10	Machine Elements 1	CMMI-L-4.02	MC	C4,C5								3	0	0	2	65	E	5
11	Fluid Mechanics 1	CMMI-L-4.03	MC	C3								3	1.5	1	0	58	E	5
12	Tolerances and Dimensional Control	CMMI-L-4.04	MC	-								2.5	0	2	0	45	E	4
13	Mechanical Vibrations	CMMI-IIND-4.05	MC	C3								2	0	1	0	39	C	3
14	Physical Training and Sports 4	CMMI-L-4.06	MC	-								0	1	0	0	13	C	1
15	Field of Study Practical Training (3 weeks x 30 hours = 90 hours)	CMMI-IIND-4.07	MC	-												18	C	4
16	Thermodynamics	CMMI-L-4.08	OC	C6								2	0	1	0	39	C	3
	Heat and Mass Transfer	CMMI-L-4.09	OC	C6														
17	English Language 2	CMMI-L-4.10	OC	-								0	1	0	0	13	C	1
	French Language 2	CMMI-L-4.11	OC	-														
	German Language 2	CMMI-L-4.12	OC	-														
18	Elementary Physics	CMMI-L-3.11	FC	-	0	2	0	0	53	C	3							
19	Computational Geometry	CMMI-L-3.12	FC	-	2	2	0	0	79	C	5							
20	Pedagogy II	DPPD-SPU-03	FC	-	2	2	0	0	64	E	5							
21	Ethics and Academic Integrity	CMMI-L-4.13	FC	-								2	1	0	0	39	C	3
22	Specialty Didactics	DPPD-SPU-04	FC	-								2	2	0	0	64	E	5
	Total hours per week, total evaluations				14.5	7	6.5	0	418	4E	**30**	15	5.5	5	2	335	4E	**30**
	and credits per semester					**28**				4C			**27.5**				5C	

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Prerequisites: C1 - Mathematical Analysis 1, 2; **C2** - Computer Programming;
C3 - Theoretical Mechanics 1; **C4** - Strength of Materials 1; **C5** - Mechanisms; **C6** - Physics

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CURRICULUM - 3rd year of study

No.	Course name	Course code	Type	Prere-quisite	1st semester							2nd semester						
					No of hours				Hours	Ev	K	No of hours				Hours	Ev	K
					C	S	L	P	SI			C	S	L	P	SI		
1	Machine Elements 2	CMMI-IIND-5.01	MC	C1	2	0	0	1	39	E	3							
2	Quality Control	CMMI-IIND-5.02	MC	C2	2	0	1	0	39	C	3							
3	Machine Tools and Cutting 1	CMMI-IS-5.03	MC	-	2.5	0	2	0	72	E	5							
4	Fundamentals of CAD	CMMI-IS-5.04	MC	C3	2	0	3.5	0	85	C	6							
5	Fundamentals of Technical Creativity	CMMI-IIND-5.05	MC	-	2	1	0	0	66	C	4							
6	Welding Processes Theory 1	CMMI-IS-5.06	MC	C4	2	0	2	0	52	E	4							
7	Electrical Engineering and Electronics	CMMI-L-5.07.b	OC	C7	3	0	1	0	52	E	4							
	Industrial Electrical Engineering	CMMI-L-5.08.b	OC	C7														
8	English Language 3	CMMI-L-5.15	OC	-	0	1	0	0	13	C	1							
	French Language 3	CMMI-L-5.16	OC	-														
	German Language 3	CMMI-L-5.17	OC	-														
9	Welding Processes Theory 2	CMMI-IS-6.01	MC	C5								3	0	1.5	0	45	C	4
10	Pressure Welding Technology 1	CMMI-IS-6.02	MC	C5								2	0	1	1	25	E	3
11	Fusion Welding Technology 1	CMMI-IS-6.03	MC	C5								2	0	1	1	52	E	4
12	Welding Equipment	CMMI-IS-6.04	MC	-								3	0	1.5	0	45	E	4
13	Machines Manufacturing Technology 1	CMMI-IS-6.05	MC	C6								2	0	2	0	52	E	4
14	Reconditioning Tehnologies	CMMI-IS-6.06	MC	-								2	0	1	0	39	C	3
15	Industrial Management	CMMI-L-6.07	MC	-								2	1	0	0	39	C	3
16	Speciality Practical Training (3 weeks x 30 hours = 90 hours)	CMMI-IS-6.08	MC	-												18	C	4
17	English Language 4	CMMI-L-6.15	OC	-								0	1	0	0	13	C	1
	French Language 4	CMMI-L-6.16	OC	-														
	German Language 4	CMMI-L-6.17	OC	-														
18	Fundamentals of Industrial Engineering	CMMI-IIND-5.12	FC	-	2	0	1	1	52	C	4							
19	Computer Aided Training	DPPD-SPU-04	FC	-	1	1	0	0	32	C	2							
20	Pedagogic Training I	DPPD-SPU-05	FC	-	0	0	3	0	48	C	3							
21	Elements of Industrial Design	CMMI-IIND-6.11	FC									2	1	1	0	52	C	4
22	Classroom Management	DPPD-SPU-06	FC	-								1	1	0	0	30	C	3
23	Pedagogic Training II	DPPD-SPU-07	FC	-								0	0	3	0	32	C	2
24	Entrepreneurial education	CMMI-L-6.18	FC									2	0	1	0	93	C	5
	Total hours per week, total evaluations				15.5	2	9.5	1	418	4E	**30**	16	2	8	2	328	4E	**30**
	and credits per semester					**28**				4C			**28**				5C	

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Prerequisites: C1 - Machine Elements 1; **C2** - Tolerances and Dimensional Control; **C3** - Computer-Aided Engineering Graphics and Applied Informatics; **C4** - Materials Technology; **C5** - Welding Processes Theory 1; **C5** - Machine Tools and Cutting Manufacturing 1; **C7** - Physics.

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Conferred title: engineer degree
Study duration: 4 years, 240 ECTS
Form of education: *full-time*

CURRICULUM - 4th year of study

No.	Course name	Course code	Type	Prere-quisite	1st semester							2nd semester						
					No of hours				Hours	Ev	K	No of hours				Hours	Ev	K
					C	S	L	P	SI			C	S	L	P	SI		
1	Fundamentals of Computer Assisted Technological Design	CMMI-IS-7.01	MC	C1	4	0	3	0	118	C	8							
2	Machines Manufacturing Technology 2	CMMI-IS-7.02	MC	C2	3	0	0	2	92	E	6							
3	Pressure Welding Technology 2	CMMI-IS-7.03	MC	C3	2	0	0	1	39	E	3							
4	Fusion Welding Technology 2	CMMI-IS-7.04	MC	C4	3	0	0	2	65	C	5							
5	Robotic Welding Processes	CMMI-IS-7.05	MC	C5	2	0	0	2	52	E	4							
6	Welding Related Procesess / Welding Fluxes	CMMI-IS-7.06	OC	C5	2	0	2	0	52	E	4							
	Non-metallic Materials Joining Processes	CMMI-IS-7.07	OC	C4														
7	Design and Certification of Welded Structures	CMMI-IS-8.01	MC	C6								2	0	0	2	52	E	4
8	Quality Control Welded Joints	CMMI-IS-8.02	MC	C7								2	0	1	0	66	E	4
9	Mechanization and Automatization Welding Processes	CMMI-IS-8.03	MC	C5								2	0	2	0	52	E	4
10	Quality Assurance	CMMI-IS-8.04	MC	C7								2	1	1	0	52	C	4
11	Non-conventional Welding Procesess	CMMI-IS-8.05	MC	C4								2	0	1	0	39	E	3
12	Diploma Project 1	CMMI-IS-8.06	MC	-								0	0	0	4	52	C	4
13	Diploma Project 2 (*2 weeks.x 30 hours = 60 hours*)	CMMI-IS-8.09	MC	-												21	C	3
14	Computer Aided Design of Welded Structures	CMMI-IS-8.06	OC	C1								1	0	3	0	52	C	4
	Numerical Modelling and Simulation	CMMI-IS-8.07	OC	-														
15	English Language 5	CMMI-L-7.15	FC	-	0	1	0	0	13	C	1							
16	French Language 5	CMMI-L-7.16	FC	-	0	1	0	0	13	C	1							
17	German Language 5	CMMI-L-7.17	FC	-	0	1	0	0	13	C	1							
18	Entrepreneurial education	CMMI-L-7.18	FC		1	0	2	0	93	C	5							
19	Career Management	CMMI-L-7.19	FC	-	2	1	0	0	39	C	3							
20	English Language 6	CMMI-L-8.15	FC	-								0	1	0	0	13	C	1
	French Language 6	CMMI-L-8.16	FC	-								0	1	0	0	13	C	1
	German Language 6	CMMI-L-8.17	FC	-								0	1	0	0	13	C	1
21	Applied Entrepreneurial education	CMMI-L-8.18	FC									2	0	0	1	39	C	3
	Total hours per week, total evaluations				16	0	5	7	418	4E	30	11	1	8	6	386	4E	30
	and credits per semester					28				2C			26				4C	
22	Diploma Exam	CMMI-IS-ED	MC														E	10

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Prerequisites: C1 - Fundamentals of CAD; **C2** - Machines Manufacturing Technology 1; **C3** - Pressure Welding Technology 1; **C4** - Fusion Welding Technology 1; **C5** - Welding Equipment; **C6** - Fusion Welding Technology 2; **C7** - Quality Control