Transilvania University of Braşov, Romania

Study program: Digital Production Systems

Faculty: Technological Engineering and Industrial Management
Study period: 4 years (bachelor)
Academic year structure: 2 semesters (14 weeks per semester)
Examination sessions (two): winter session (January/February)
summer session (June/July)

Courses per years (C = course; S = seminar; L= laboratory; P = project)

1st Year

No. crt.	Course	Code	1st Semester					2nd Semester				
			C	S	L	P	Cred	C	S	L	P	Cred
01	Mathematical analysis	AM	2	2			4					
02	Descriptive geometry	GD	2	2			5					
03	Chemistry	CHI	2		1		3					
04	Computer programming and programming languages I	PCL1	1		2		3					
05	Technical drawing and info- graphics I	DTI1	2		3		5					
06	Physics	FIZ	2		2		4					
07	Ethics and Academic Integrity	EAI	1	1			2					
08	Material science and engineering	SIM						3		2		5
09	Linear algebra, analytical and differential geometry	ALGA						2	2			4
10	Mechanics	MEC						2	3			5
11	Technical drawing and info- graphics II	DTI2						1		4		5
12	Computer programming and programming languages II	PCL2						2		2		5
13	General economics	ECG						1	1			3
14	*English Language 1*	LE1	1	1			2					
	French Language 1	LF1										
15	*English Language 2*	LE2						1	1			2
	French Language 2	LF2										
16	Physical Education and Sports 1, Physical Education and Sports 2	EDF1, EDF2		1			1		1			1

2nd Year

No. crt.	Course	Code	3rd Semester					4th Semester				
			C	S	L	P	Cred	C	S	L	P	Cred
01	Special mathematics	MS	2	2			4					
02	Strength of materials I	RM1	2	1	1		5					
03	Mechanisms	MECSM	3		2		6					
04	Numerical methods	MNI	2		2		4					
05	Fluid mechanics and hydraulic equipment	MFH	2		1		3					

06	Electrotechnics and applied electronics	EEA	2		2		5					
07	Machine elements I	OM1						2		1	1	4
08	Strength of materials II	RM2						2	1	1		4
09	Basics of computer aided technological design	BPTAC						2		2		3
10	Basics of Industrial engineering	BI1						2		2		4
11	Materials selection and heat treatments	AMTT						2		1		3
12	Thermotechnics and heat engines	TET						2		1		3
13	Industrial Management	MIN						2	1			2
14	Internship (90 hours/ year)	PRAD									7	4
15	*English Language 3*	LE3	1	1			3					
	French Language 3	LF3										
16	*English Language 4*	LE4						1	1			3
	French Language 4	LF4										
17	Physical Education and Sports 3, Physical Education and Sports 4	EDF3, EDF4		1			1		1			1

3rd Year

No. crt.	Course	Code	5th Semester					6th Semester				
			C	S	L	P	Cred	C	S	L	P	Cred
01	Machine elements II	OM2	2		1		4					
02	Machine elements II- project	POM2				2	3					
03	Ecology and Environment protection	EPM	2	1			4					
04	Finite Element Method	MEF	2		2		3					
05	Tools and accessories for machine-tools	PASA	2		1	1	5					
06	Electrical control and drives	CAE	2		1		3					
07	Quality Management	MC	2		2		4					
08	Fundamentals of machine-tools design and kinematics	BCM						2		1		4
09	Fundamentals of machine-tools design and kinematics - Project	BCMP									2	2
10	Unconventional processing equipment	ETN						3		2	1	5
11	Tolerances and dimensional control	TCD						2		2		4
12	Design of metal forming machine-tools	MUPD						2		1	1	4
13	Plan practice (90 hours/year)	PrS									7	4
14	*Design I*	DES1	2		1	1	4					
	Computer aided technological design I	PTAC1										
15	*Design II*	DES2						2		1	1	4
	Computer aided technological design II	PTAC2										
16	*Automated and numerical control machines*	MUACN						2		1	1	3
	Modeling and simulation of production systems	MSSP										

4th Year

No. crt.	Course	Code	7 th Semester					8th Semester				
			C	S	L	P	Cred	C	S	L	P	Cred
01	Machine-tools and production systems design	PMUSP	2		1	2	6					
02	Intelligent kinematic axis control	ACI	2		2		4					
03	Hydraulic and pneumatic control and drives	AHP	3		2	1	6					
04	Sensors and data acquisition	SAD	2		1	1	4					
05	Digital production I	PD1	2		2		4					
06	Digital production I - Project	PDP1				1	2					
07	Digital production II	PD2						2		1	2	4
08	3D printing equipment	EI3D						3		1	1	3
09	Logistics of industrial systems	LIN						2		1	1	3
10	Internship for diploma project (60 hours)	PPD									6	10
11	Elaboration diploma project	EPD									4	6
12	*Special machine-tools*	MUS	2		1	1		4				
	Gearing machines	MD										
13	*Reliability and maintenance*	FM						2	1			3
	Maintenance and operation of machine tools	IEMU										
14	*Flexible manufacturing systems*	SFF						3		1	1	3
	Lean Production systems	SLP										