

# 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)

### 1<sup>st</sup> Year

No. crt.	Course	Code	1 <sup>st</sup> Semester					2 <sup>nd</sup> 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		5					
07	Professional integration and development	IDP	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	<i>Modern languages 1 (English)</i>	LM1a	1	1			3					
	<i>Modern languages 1 (French)</i>	LM1b										
15	<i>Modern languages 2 (English)</i>	LM2a						1	1			3
	<i>Modern languages 2 (French)</i>	LM2b										
16	Physical training I, Physical training II	EDF1, EDF2		1			1		1			1

### 2<sup>nd</sup> Year

No. crt.	Course	Code	3 <sup>rd</sup> Semester					4 <sup>th</sup> 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		4
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	<i>Modern languages 3 (English)</i>	LM3a	1	1			2					
	<i>Modern languages 3 (French)</i>	LM3b										
16	<i>Modern languages 4 (English)</i>	LM4a						1	1			2
	<i>Modern languages 4 (French)</i>	LM4b										
17	Physical training III, Physical training IV	EDF3, EDF4		1			1		1			1

### 3<sup>rd</sup> Year

No. crt.	Course	Code	5 <sup>th</sup> Semester					6 <sup>th</sup> 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	<i>Design I</i>	DES1	2		1	1	4					
	<i>Computer aided technological design I</i>	PTAC1										
15	<i>Design II</i>	DES2						2		1	1	4
	<i>Computer aided technological design II</i>	PTAC2										
16	<i>Automated and numerical control machines</i>	MUACN						2		1	1	3
	<i>Modeling and simulation of production systems</i>	MSSP										

### 4<sup>th</sup> Year

No. crt.	Course	Code	7 <sup>th</sup> Semester					8 <sup>th</sup> 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									6	4
12	<i>Special machine-tools</i>	MUS	2		1	1		4				
	<i>Gearing machines</i>	MD										
13	<i>Reliability and maintenance</i>	FM						2	1			3
	<i>Maintenance and operation of machine tools</i>	IEMU										
14	<i>Flexible manufacturing systems</i>	SFF						3		1	1	3
	<i>Lean Production systems</i>	SLP										