

# Transilvania University of Braşov, Romania

## Study program: Innovative Manufacturing Engineering

Faculty: Technological Engineering and Industrial Management

Study period: 2 years (master)

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	CNC programming	IFI.01.CNAC	2		1		4							
02	Advanced manufacturing technologies	IFI.01.TNPF	2		2		5							
03	Programming of algorithms for manufacturing engineering	IFI.01.PAUI	1		2		4							
04	Advanced production systems	IFI.01.SAPR	2		1		4							
05	Innovating and inventing in engineering	IFI.01.INIV	1			2	4							
06	Ethics and academic integrity	IFI.01.EISA	1	1			2							
07	Practical activities for design I*	IFI.01.PRCP1				10	7							
<b>Optional package: Computer Aided Manufacturing Engineering</b>														
08	Advanced software for CAD modelling	IFI.02.PSMI						3		1	1	6		
09	Modelling and simulation of flexible manufacturing systems	IFI.02.MSSF						2		2		5		
10	Innovative cold forming technologies	IFI.02.TIDP						2		1	1	6		
11	3D measurement technologies	IFI.02.TEMS						2		2		5		
12	Practical activities for design II*	IFI.02.PRCP2									11	8		
<b>Optional package: Advanced Production Systems</b>														
08	Optimization of advanced manufacturing systems	IFI.03.OSAP						2		2		6		
09	Robust design of advanced production systems	IFI.03.PRSP						2		2		5		
10	Reconfigurable production systems	IFI.03.SPRC						2		2		5		
11	Fluidic drive systems	IFI.03.SFLA						3		2		6		
12	Practical activities for design II*	IFI.02.PRCP2									11	8		

### 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		
<b>Optional package: Computer Aided Manufacturing Engineering</b>														
01	Advanced CAM systems	IFI.01.03SCAM	2		1	1	5							
02	Design systems for innovative manufacturing	IFI.01.03MPFI	2		2	1	5							
03	CAPP algorithms and programming	IFI.01.03APCT	2		2		5							
04	Enterprise data management with ERP	IFI.01.03MIRI	2		2		5							
05	Management and resources for research projects	IFI.01.03MRPC	2			2	4							
06	Practical activities for research	IFI.03.PRCS				7	6							

Optional package: Advanced Production Systems												
01	Simulation and modelling of the man-machine system	IFI.03.SMSO	2		2	5						
02	Advanced logistics	IFI.03.SELG	2		2	1	5					
03	Programmable logic controllers	IFI.03.ATPR	2		2		5					
04	Computer aided programming of advanced production systems	IFI.03.PASP	2		2		5					
05	Data acquisition and analysis	IFI.02.ACPD	2		2		4					
06	Practical activities for research	IFI.03.PRCS				7	6					
<b>Compulsory courses for all packages</b>												
07	Practical activities for design and research	IFI.04.PRPC									14	15
08	Dissertation paper elaboration	IFI.04.DISR									14	15