

# 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	Algorithms programming 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.PRCP				10	7						
<b>Optional package: Computer Aided Manufacturing Engineering</b>													
08	Advanced software for CAD modelling	IFI.02.MIPR						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		5
11	Maintenance techniques	IFI.02.MPMT						1		1			3
12	3D measurement technologies	IFI.02.TM3D						1		1			3
13	Practical activities for design II*	IFI.02.PRCP										11	8
<b>Optional package: Advanced Production Systems</b>													
08	Optimisation of advanced manufacturing systems	IFI.03.OSAF						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.PRCP										11	8

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.O1.03.SCAM	2		1	1	5					
02	Design systems for innovative manufacturing	IFI.O1.03.FINO	2		2	1	5					
03	CAPP algorithms and programming	IFI.O1.03.CAPP	2		2		5					
04	Enterprise data management with ERP	IFI.O1.03.MIRI	2		2		5					
05	Management and resources for research projects	IFI.O1.03.MRPC	2			2	4					
06	Practical activities for research	IFI.03.PRCS				7	6					
<b>Optional package: Advanced Production Systems</b>												
01	Simulation and modelling of the man-machine system	IFI.03.SMSM	2		2		5					
02	Advanced logistics	IFI.03.SELA	2		2	1	5					
03	Programmable logic controllers	IFI.03.AMPR	2		2		5					
04	Computer aided programming of advanced production systems	IFI.03.PASP	2		2		5					
05	Data acquisition and analysis	IFI.02.APDT	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.PRCS									14 15	
08	Dissertation paper elaboration	IFI.04.DISR									14 15	