

MANUFACTURING
2014/2015 2. Semester
(2+3 exam)

Boór (12), Markos (6), Mátyási (4) Németh (4) Tóth (2), Szalay (6), Farkas (2)

Thursday 14¹⁵-16

G115

~ 46 students

Num.	Topics	Name	Date
1.	Main trends in Manufacturing: Definitions in part manufacturing, organizing and hierarchy of it. Up to date techniques, and methods. Demands and requirements. Workpiece: Part and workpiece modelling (geometrical). Engineering and tolerances.	F. Boór	II.12
2.	Machine tools: Fundamentals of metal cutting machine tools, kinematics and structure. Manually operated, cam controlled and computer controlled lathes. Machining and turning centers.	I. Németh	II. 19.
3.	Robotics: Historical background, kinematics of robots, transformations and equations. Application of robots	A. Tóth	II. 26.
4.	Jigs and fixtures: Positioning, 3-2-1 rule, types of clamps and jigs, application and design rules, modular systems	F. Boór	III. 12.
5.	Tools: Tool geometry, materials, application requirements. Tooling systems, presetting the tools, marking system of cutting tool. Tool management	S. Markos	III. 19.
6.	Machining processes I. Cutting force, torque and cutting power. Tool failure and tool life. Surface quality and surface roughness.	T. Szalay	III. 26.
7.	Machining processes II. Turning, drilling, milling. Classification of abrasive machining. Grinding process principles, grinding wheels. Some typical grinding processes.	S. Markos	IV. 2.
8.	Non – conventional machining processes: Electrical discharge machining, Electro-chemical machining, beam machining processes. Rapid prototyping processes	S. Markos	IV. 9.
9.	Control theory. Control systems for machine tools. PLC programming. Adaptive control systems. NC programming Practical example for NC programming.	Gy. Mátyási	IV. 16.
10.	Assembling, mounting. Dimension chains and tolerances. Solutions for dimension chains. Assembling tasks. Balancing and adjustment.	F. Boór	IV. 23.
11.	Industrial metrology principles. Measuring rules. Measuring equipments. Measuring errors and compensations. Measuring machines. Quality control theory. Quality design and inspection. Quality control systems.	T. Szalay	IV. 30.
12.	Manufacturing process analysis and planning. Planning tasks and solutions. DFMA theory. Part classification. Group technology. Computer aided process planning. Processor-postprocessor theory.	F. Boór	V. 7.

“T” - laboratories

Wednesday 12¹⁵-14

G123

~ 46 students

Num.	Topics	Name	Date
1.	Introductory Course program, requirements, health and safety regulations, some basic definitions	T. Szalay	II.11
2.	Machine tools	I. Németh	II. 25.
3.	NC programming	Gy. Mátyási	III. 11.
4.	Process planning (2.5 D)	F. Boór	III. 25.
5.	Process planning (complex geometries)	F. Boór	IV. 8.
6.	Calculation examples	B. Farkas	V. 6.

A1 Tuesday 12:15 – 14:00

Date	A	B	C	D
february 19.	L1	L1	L2	L4
february 26.	L2	L4	L1	L1
march 5.	L7	L7	L4	L2
march 12.	L4	L2	L7	L7
march 19.	L3/L5	L5/L3	L8	L9
march 26.	L8	L9	L3/L5	L5/L3
april 2.	L11/L12	L12/L11	L9	L8
april 9.	L9	L8	L12/L11	L11/L12
april 16.	L13	L14	L15	L16
april 23.	L14	L15	L16	L13
april 30.	L15	L16	L13	L14
may 7.	L16	L13	L14	L15

Wednesday 12:15 -14:00

Date	A, B, C, D
february 11.	T1
february 25.	T2
march 11.	T3
march 25.	T4
april 8.	T5
april 6.	T6

Group A

1	Aisha Shamim	EAWIAJ
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5	Christian Topouchian	CCVW0H
6	Daniel Sáiz González	BP60FZ
7	Deborah Maria Leite Nascimento	XZXKAF
8	Diogo Cesar Franzoi Buosi	C9U1NK
9	Gianna Elizabeth Caprio	B4NH5S
10	Henrique Mesquita Araujo Filho	DW70TF
11	Houssam Mougharbel	HLDQDW

Group B

1	Jose Juan Sanchez Tellez	JQJY21
2	Juan Manuel Mora Hidalgo	YUIK00
3	Khalid M.M. Almotairi	FEM1NX
4	Martín Emmanuel Arredondo Rodríguez	P34W35
5	Mathias Junemann	AZHI2P
6	Nathália Chamie	EPDOUP
7	Rayane Maria Cavalcanti Rodrigues	H4WJKC
8	Shuhan He	ORW9EN
9	Vanessa Knebel	XG8LQX
10	Vitor de Castro Nobre	MMDQZG
11	Nikolas Dimitriadis	J972X8