UNIVERSITY OF PANNONIA

COURSE DATASHEET

Semester:	2014/15/2
Course:	CNC technology and programing 1
Code:	VEMKGEB552C
Responsible department:	Institute of Mechanical Engineering
Department code:	MKGEI
Responsible instructor:	dr. Imre Timár

Course objectives:

Introduction to the CNC machines and technologies, introduction to the basic programming.

Course content:

Structure of the CNC machines. Beds. Main and auxillary spindles.
Measuring systems of the CNC machines. Positioning. Tool storage and tool holders.
Tool changer equipments. Turrets. CNC control systems.
Coordinate systems. Reference points of the CNC-machines. Rules for the definition of the coordinate systems.
Relationship between the coordinate systems. Coordinate transformation. Definition of the null point. Null point shift. Set up the null point shift on CNC machines, null point data storage.
Definition of the tool correction. Determination of the tool correction. Set up the tool correction on CNC machines, tool correction data storage.
Definition of the position display on CNC machines. Definition of the CNC program, structure of the CNC program. Relative tool movement. The DIN 66025 standard.
Tool radius correction, rules of the application. Tool radius correction for the milling tool, rules for the application. Programing the technology information.
The detailed structure of the CNC-programs. Simple CNC program development with the G-code commands.
Introduction to use the ISEL ICV 4030 type CNC milling machine and …Remote" CNC machining program. Manual operation.
Introduction to use the ISEL ICV 4030 type CNC milling machine and …Remote" CNC machining program. Programming and operating simple engraving task. I.
Introduction to use the ISEL ICV 4030 type CNC milling machine and …Remote" CNC machining program. Programming and operating simple engraving task. II.
Introduction to use the ISEL ICV 4030 type CNC milling machine and …Remote" CNC machining program. Programming and operating simple milling task. I.
Introduction to use the ISEL ICV 4030 type CNC milling machine and …Remote" CNC machining program. Programming and operating simple milling task. II.

Requirements, evaluation and grading:

At least grade 2 midterm examination.

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Requirements, evaluation and grading:

The whole content of lectures is included in the written examination.
Grading is based on a written final examination.
The final mark is determined according to reached points:
points final mark
above 80 excellent (5)
70-79 good (4)
60-69 medium (3)
50-59 pass (2)
below 50 fail (1)

Required and recommended readings:

Boza Pál: CNC-technológia és -programozás, Jegyzet, 2008