Course description

Course abbreviation:	KTO/PANC2					Page:	1/3
Course name:	Automat. of N	C Machine-Too	l Program. 2		Drinted	02 07 2025	06.44
Academic Year:	2023/2024				Printed:	03.07.2025	06:44
Denartment/Unit /	KTO / PANCZ	,			Academic Vear	2023/2024	
Title	Automat of N	C Machine-Toc	Program 2		Type of completion	Dre-Evam	Credit
I ong Title	Automatically	of NC Machine	a Tool Programmi	ng 2	Type of completion	TIC-LAUIT	creat
Long The	Vog 5 Crod	of NC Machine		ing 2	Type of completion	Combined	
Accredited/Credits	Tutorial 4 [IIa	wa/Waala			Type of completion	Comonica	
		uis/weekj	Status C	C		Ne	
Occ/max				C	ourse credit prior to	NO	
Summer semester	3/-	0/-	0 / -	C	ounted into average	NO	
Winter semester	0/-	0 / -	0 / -	N D	Ann. (B+C) students	5 NO	
Timetable	Yes			R	epeated registration	NO	
Language of instruction	Czech				Semester taught	Summer se	mester
Optional course	Yes				Internship duration	0	
Evaluation scale	SIN						
No. of hours of on-premise	T T 1 .1	с ·					
Auto acc. of credit	Yes in the case of a previous evaluation 4 nebo nic.						
Periodicity	every year						
Specification periodicity							
Substituted course	None						
Preclusive courses	N/A						
Prerequisite courses	N/A						
Informally recomm	ended courses	N/A					
Courses depending	on this Course	N/A					

Course objectives:

The aim of the subject is to master and practice multi-axis machining techniques, to get acquainted with the influence of postprocessors on creating and simulating NC data, to learn how to use the extensions of the most widely used CNC control systems

Requirements on student

- successful debugging of NC program

- pass the seminar project

Content

- practice the knowledge acquired in previous subjects
- preparation of NC data for turning in CAM system
- preparation of NC data for milling in 2 1/2D and 3D
- preparation of NC data for multi-axis milling
- individual work on the seminar project
- preparation of a technological documentation through CAM system
- NC machine alignment and program debugging

Guarantors and lecturers

•	Guarantors:	Ing. Aneta Jirásko, Ph.D. (100%)
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• Tutorial lecturer: Ing. Jan Hnátík, Ph.D. (25%), Ing. Luboš Kroft, Ph.D. (25%)

Literature

• Basic:	Štulpa, Miloslav. CNC : programování obráběcích strojů. První vydání. 2015. ISBN 978-80-247-
• Recommended:	5269-3. Dillinger, Josef. <i>Moderní strojírenství pro školu i praxi</i> . Vyd. 1. Praha : Europa-Sobotáles, 2007. ISBN 978-80-86706-19-1.

Time requirements

All forms of study

All forms of study	
Activities	Time requirements for activity [h]
Practical training (number of hours)	20
Presentation preparation (report) (1-10)	10
Undergraduate study programme term essay (2 40)	.0- 40
Contact hours	52
Tot	al: 122

assessment methods

Knowledge - knowledge achieved by taking this course are verified by the following means:

Seminar work

Skills demonstration during practicum

Individual presentation at a seminar

Skills - skills achieved by taking this course are verified by the following means:

Seminar work

Skills demonstration during practicum

Individual presentation at a seminar

Competences - competence achieved by taking this course are verified by the following means:

Seminar work

Individual presentation at a seminar

prerequisite

Knowledge - students are expected to possess the following knowledge before the course commences to finish it successfully:

- describe creation of NC programs by workshop programming systems

- describe the basic principles of a NC machine tool

- describe the basic methods of machining and finishing processes

Skills - students are expected to possess the following skills before the course commences to finish it successfully:

- build NC program in selected workshop programming system

- select a suitable cutting tool and select cutting conditions

Competences - students are expected to possess the following competences before the course commences to finish it successfully:

N/A

teaching methods

Knowledge - the following training methods are used to achieve the required knowledge:

Practicum

Task-based study method

Self-study of literature

Skills - the following training methods are used to achieve the required skills:

Seminar

Skills demonstration

Task-based study method

Competences - the following training methods are used to achieve the required competences:

Practicum

Task-based study method

learning outcomes

Knowledge - knowledge resulting from the course:

- in description of basic functions of CAD / CAM system

- in multi-axis and indexed machining

- explain the function of the postprocessor and understand its importance

Skills - skills resulting from the course:

- create NC program using CAM system

- prepare the NC machine tool and debug the corresponding NC program

Competences - competences resulting from the course:

N/A

Course is included in study programmes:

Study Programme	Type of	Form of	Branch	Stage St. plan v.	Year	Block	Status	R.year	R.
Engineering	Bachelor	Full-time	Programming of NC Machines	1 2020	2023	Povinné předměty 4. ročníku	A	4	LS