

INFORMAČNÝ LIST PREDMETU

Vysoká škola: Trenčianska univerzita Alexandra Dubčeka v Trenčíne	
Fakulta: Fakulta špeciálnej techniky	
Kód predmetu: KSTM/3-76/d/16	Názov predmetu: Technology of Material Processing I
Druh, rozsah a metóda vzdelávacích činností: Forma výučby: Prednáška / Cvičenie / Laboratórne cvičenie Odporúčaný rozsah výučby (v hodinách): Týždenný: 0 / 0 / 2 Za obdobie štúdia: 0 / 0 / 24 Metóda štúdia: prezenčná	
Počet kreditov: 6	
Odporúčaný semester/trimester štúdia:	
Stupeň štúdia: N	
Podmieňujúce predmety:	
Podmienky na absolvovanie predmetu: 90% attendance at lectures, 100% attendance at laboratory exercises (max. With 2 excused absences), individual work for absence at lectures and laboratory exercises, demonstration of knowledge of the content of the subject in written and oral exam during the trial period. Final testing in the written and oral form. Of the total number of 100% points, at least (E) - 55%, (D) - 65%, (C) / 75%, (B) - 85%, (A) - 95%	
Výsledky vzdelávania: To acquaint Erasmus students with basic principles, kinematics, and application in practice of individual chip machining technologies, using conventional and CNC machining machines, with cutting materials and cutting tools (with monolithic and interchangeable cutting plates), with clamping tools, finishing machining methods, unconventional machining technologies. Furthermore, with conventional chisel machining and so- "HSC, HPC, HM, DM" machining. Practical as well as the calculation of the cutting conditions, the decomposition of the individual components of the cutting forces, the calculation of the main machine and secondary machining times and the total machining power. Getting acquainted with the heat phenomena of machining and the qualitative indicators of machining technology. Create the technological process of machining parts.	
Stručná osnova predmetu: Basic phenomena and definitions of machining, kinematics of individual machining processes. Basic shape of the cutting tool, geometry of the cutting wedge, tool and working angles. Mechanics of chip formation - deformation processes in the cutting zone, formation and transformation of chips, types of chips, formation of growth. Cutting, cutting tools and cutting materials - use in practice. Dynamics of the cutting process - cutting forces, cutting work, heat cutting phenomena, machining cooling. Cutting performance and productivity. Stability of the cutting process, interrupted rust, machining. Wear and durability, tool life. Machining of materials used in the engineering industry, classes and machining groups. Cutting materials and CVD / PVD coatings used in machining. Basic machining technologies (turning, milling, drilling, grinding), finishing and unconventional machining methods. Automation of the machining process, principle and types of NC and CNC machine tools, FANUC, HEIDENHAIN control systems. Technology of construction.	

Creation of production and technological processes. Calculation of Cutting Parameters and Main Machining Times.

Odporúčaná literatúra:

[1] KALPAKIJAN, S.: Manufacturing, engineering and technology. ADDISON WESLEY PUBLISHING Co. USA, 1995.

[2] TRENT, E.M., WRIGHT, P.K.: Metal Cutting. Copyright © 2000 by Butterworth–Heinemann. 439 pages. ISBN 0-7506-7069-X.

[3] KLOCKE, F.: Manufacturing Processes 1 - Cutting. Springer Heidelberg Dordrecht London New York. 497 pages. ISBN 978-3-642-11978-1.

[4] KLOCKE, F.: Manufacturing Processes 2 - Grinding. Springer Heidelberg Dordrecht London New York. 431 pages. ISBN 978-3-540-92258-2.

Jazyk, ktorého znalosť je potrebná na absolvovanie predmetu:

english

Poznámky:

The subject is provided to Erasmus students. The subject is selective.

Hodnotenie predmetov

Celkový počet hodnotených študentov: 25

A	B	C	D	E	Fx
56.0	40.0	4.0	0.0	0.0	0.0

Vyučujúci: doc. Ing. Michal Krbat'a, PhD.

Dátum poslednej zmeny: 27.09.2022

Schválil: