Title:	**Production Engineering**
Lecture hours:	30 Kon.
Study period: (summer/winter)	Winter, summer
Number of credits:	4
Assessment methods:	Reports, preparation of a presentation on a given topic,
Language of instruction:	English
Prerequisites:	Machine construction basics, Materials Science, Rudiments of Physics
Course content:	Characteristics of production processes, semi-finished, machines, machining allowances. Methods of cutting and joining materials. Methods of material processing. Metal forming. Casting, plastic working, machining, 3D printing methods. General construction of lathes, milling machines, drills, grinders. Construction of cutting tools. Blade geometry. Workpiece clamping and workshop aids. Organization of the workplace. Components of the technological process. Design principles and framework technological processes of various machine elements. Basic principles of CNC programming in the MTS CNC simulator. Code analysis, selection of tools and cutting parameters using the MTS CNC simulator.
Learning outcomes:	The result of the course will be familiar with the characteristics of the production processes. Acquiring knowledge about methods of materials processing engineering. Getting to know the technique of manufacturing machine parts.
Name of lecturer:	Dr inż. Andrzej Trafarski
Contact (email address):	trafarski@ukw.edu.pl
Literature:	1. Rajender Singh: Introduction to basic manufacturing processes and workshop technology, New Age Int. Publishers 2. Mikell P. Groover: Fundamentals of Modern Manufacturing, Materials, Processes, and Systems, John Wiley & Sons, Inc. 3. Hwaiyu Geng: Manufacturing Engineering Handbook, McGraw Hill Professional 4. DeGarmo's Materials and Processes in Manufacturing, John Wiley & Sons, Inc 5. Thomas Childs, Katsuhiro Maekawa, Toshiyuki Obikawa, Yasuo Yamane: Metal Machining Theory and Applications, John Wiley & Sons Inc. 6. Fundamentals of CNC Machining A Practical Guide for Beginners Compliments of Autodesk, Inc. 7. Serope Kalpakjian, Steven Schmid: Manufacturing Processes for Engineering Materials, Pearson 8. Philip D. Rufe, Philip D. Rufe: Fundamentals of Manufacturing, Society of Manufacturing Engineers. 9. Andrew Yeh, Ching Nee: Handbook of Manufacturing Engineering and Technology, Springer London