

Title (Obrabiarki CNC)	Code 10102512610102202274
Field Mechanical Engineering	Year / Semester 3 / 6
Specialty -	Course core
Hours Lectures: 2 Classes: - Laboratory: 1 Projects / seminars: 1	Number of credits 3
	Language polish

Lecturer:

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Faculty:

Faculty of Mechanical Engineering and Management
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Status of the course in the study program:

Core course at the Faculty of Mechanical Engineering and Management to the first degree studies of Mechanical Engineering

Assumptions and objectives of the course:

Getting familiar with: general design, running and operation of CNC machines, their controls drives and programming.

Contents of the course (course description):

Classification and demands of CNC machine tools (according to ISO 230 standards), determination and orientation NC axes. Drive and servodrive units: main and feed drives (DC, AC and linear type), analogue and digital. Measuring systems. Mechanical parts. Design principles for CNC machine tools. Overview and characteristic of modern CNC machine tools, NC machining centre. Development trends (direct drives, electro-spindles, HSM and HSC machine tools). Investigations in functional units of CNC machine tools.

Classification, principles and methods of CNC machine tools programming. Structure and construction of the control units and control systems. Machining strategies. Programming with the use of special functions, subprograms and cycles.

Introductory courses and the required pre-knowledge:

Basic knowledge of machine design, technology, tool selection and machining, rudiments of automatics and automation.

Courses form and teaching methods:

Lectures supported by multimedia presentation, laboratory of programming and CNC machine tools.

Form and terms of complete the course - requirements and assessment methods:

Examination - test, laboratory credit.

Basic Bibliography:

Additional Bibliography: