

Title <b>Design Elements for Technology (Elementy proj. techn.)</b>	Code <b>1010401171010220762</b>
Field <b>EDUCATION IN TECHNOLOGY AND INFORMATICS</b>	Year / Semester <b>4 / 7</b>
Specialty -	Course <b>core</b>
Hours Lectures: <b>1</b> Classes: -    Laboratory: -    Projects / seminars: <b>1</b>	Number of credits <b>2</b>
	Language <b>polish</b>

**Lecturer:**

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**Status of the course in the study program:**

Core course of the study for Education in Technology and Informatics, Faculty of Technical Physics.

**Assumptions and objectives of the course:**

The student should obtain basic knowledge of manufacturing process planning of machining.

**Contents of the course (course description):**

Mechanical engineering and its range (definitions of basic notions ? technology, mechanical engineering, manufacturing process etc.). Manufacturing process ? essence and structure. Planning of machining operations (straight and facing turning, boring, drilling, reborring, reaming, slotting, pull broaching, slot milling, threading and tapping, plunge and continuous grinding (centreless and center-type). Input information for process planning. Documentation of manufacturing. Definition of standard worktime. Type of semifinished products. Production program and its influence on manufacturing process planning. Classification of machine parts. Manufacturing process of typical machine parts (shaft, sleeve, disc etc.). Verification of productibility of axially-symmetrical parts.

**Introductory courses and the required pre-knowledge:**

Basic knowledge from the range of materials manufacturing, engineering drawing, metrology and manufacturing.

**Courses form and teaching methods:**

Lectures supported by transparencies, project.

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

Examination in writing, project of manufacturing process of selected axially-symmetrical machine parts.

**Basic Bibliography:**

1. Feld M., Podstawy projektowania procesów technologicznych typowych części maszyn, WNT, Warszawa 2003.
2. Synarodzki L., Projektowanie procesów technologicznych, Wyd. Pol. Warszawskiej, 2006
3. Korzyński M., Podstawy technologii maszyn, Wyd. Pol. Rzeszowskiej, 2008.
4. Zawora J., Podstawy technologii maszyn, Wyd. WSiP, 2008.

5. Szucki T., Podstawy technologii wytwarzania elementów maszyn, Wyd. Pol. Warszawskiej, 1999.
6. Kapiński S., Skawiński P., Sobieszcański J., Sobolewski J.Z., Projektowanie technologii maszyn, Wyd. Pol. Warszawskiej, 2007.
7. Praca zbiorowa: Casting Design Handbook, The American Society for Metals, Metals Park Ohio, Reinhold Publishing Corp. 1992.
8. Poradnik Inżyniera, Obróbka skrawaniem. WNT, Warszawa 2001.

**Additional Bibliography:**

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