

Title <b>Programming of Digital Signal Processors</b>	Code <b>1018011410108300071</b>
Field <b>Electronics and Telecommunications</b>	Year / Semester <b>2 / 4</b>
Specialty -	Course <b>core</b>
Hours Lectures: <b>1</b> Classes: -    Laboratory: <b>2</b> Projects / seminars: -	Number of credits <b>0</b>
	Language <b>polish</b>

**Lecturer:**

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

Compulsory course on Electronics and Telecommunications studies.

**Assumptions and objectives of the course:**

Hands-on digital signal processor application and programming basics.

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

History, trends, and comparison of different digital signal processors. Digital signal processor architectures: hardware multiplier, Harvard architecture, multi-bus architecture, multi-unit arithmetic-logic operations, long accumulator, pipeline data processing, delayed branches, parallel processing, specialized addressing modes: modulo addressing, bit-reverse addressing. Review of current fixed-point and floating-point digital signal processors. Development software and kits for SHARC digital signal processors. Instruction list of SHARC processors. Assembler languages. Memory organization. I/O system. Software and hardware for digital signal processor system design.

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

Analog and digital signal processing.

**Courses form and teaching methods:**

Lecture - 15 hours per semester, laboratory based on SHARC development kits - 30 hours.

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

Lecture - final colloquium, individual laboratory projects.

**Basic Bibliography:**

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**Additional Bibliography:**

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