

Title <b>CAD of electronic circuits</b>	Code <b>1018071610108310165</b>
Field <b>Electronics and Telecommunications</b>	Year / Semester <b>3 / 6</b>
Specialty -	Course <b>core</b>
Hours Lectures: <b>1</b> Classes: -    Laboratory: <b>1</b> Projects / seminars: -	Number of credits <b>3</b>
	Language <b>polish</b>

**Lecturer:**

Sławomir Michalak, PhD eng  
Faculty of Electronics and Telecommunications  
St Polanka 3  
60-965 Poznań  
phone: +48 616653824  
e-mail: michalak@et.put.poznan.pl

**Faculty:**

Faculty of Electronics and Telecommunications  
ul. Piotrowo 3A  
60-965 Poznań  
tel. (061) 665-2293, fax. (061) 665-2572  
e-mail: office\_det@put.poznan.pl

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

Obligatory course for students of Electronics and Telecommunications

**Assumptions and objectives of the course:**

To have knowledge how to work with electronic CAD programs

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

Electronic circuit design: steps, tasks, a final result. Models of basic electronic devices (resistor, capacitor, inductor, voltage and current sources, diode, bipolar transistor, operational amplifier). Basic analog analysis: AC sweep, DC sweep, and transient analysis. Advanced analysis: parametric, FFT, noise, statistic (Worst Case and Monte Carlo), optimization. Simulation of digital and analog-digital circuits. Work with SPICE and APLAC.

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

Basic knowledge about analog and digital electronic.

**Courses form and teaching methods:**

Lectures illustrated by PowerPoint presentation.  
Exercises in computer laboratory.

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

Laboratory - execution exercises and reports  
Lecture - execution individual project in SPICE and APLAC

**Basic Bibliography:**

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**Additional Bibliography:**

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