

Title <b>Simulation of Telecommunications Systems in Matlab</b>	Code <b>POZ04WTS2ICE05</b>
Field <b>Electronics and Telecommunications</b>	Year / Semester <b>autumn</b>
Specialty <b>Information and Communication Technologies</b>	Course <b>elective</b>
Hours Lectures: <b>2</b> Classes: -    Laboratory: <b>2</b> Projects / seminars: -	Number of credits <b>5</b>

**Lecturer:**

dr inż. Sławomir Maćkowiak  
Katedra Telekomunikacji Multimedialnej i Mikroelektroniki  
tel. (061) 665-3890, fax. (061) 665-3899  
e-mail: smack@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:**

Elective course for students of Electronics and Telecommunications,

**Objectives of the course:**

To provide students with practical programming of systems in Matlab. Explaining the basic problems of simulation software in Telecommunication.

**Course description:**

Lectures: Introduction to Matlab. Simulation problems. Errors and Objective metrics. Basic problems of linear and nonlinear system theory programming. Feedback loop. Stability. Introduction to automatic control. Implementation of the basic algorithm of neural networks and a chaos simulation system.

**knowledge:**

Basic knowledge of programming. Discrete mathematics.

**Teaching methods:**

Lectures supported by multimedia presentations.

**Assessment methods:**

Individual projects, written exam.

**Bibliography:**

1. MATLAB i Simulink. Poradnik użytkownika., B. Mrozek, Z. Mrozek, 04/2004
2. Matlab 7 dla naukowców i inżynierów, R. Pratap, Wydawnictwo Naukowe PWN, 2010
3. T. Kaczorek: Teoria sterowania i systemów, PWN, Warszawa 1993.
4. S. Osowski, Sieci neuronowe do przetwarzania informacji, Oficyna Wyd. Pol. Warszawskiej 2000.