| Title System Theory   | Code<br>1018011310108400061 |
|---|-----------------------------|
| Field   | Year / Semester             |
| Electronics and Telecommunications                          | 2/3                         |
| Specialty   | Course                      |
| •   | core                        |
| Hours   | Number of credits           |
| Lectures: 2 Classes: 1 Laboratory: 2 Projects / seminars: - | 0                           |
|   | Language                    |
|   | polish                      |

## Lecturer:

| prof. dr hab. inż. Marek Domański                         |
|---|
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## 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:

- Students should obtain knowledge on basic system theory, with the emphasis on linear systems, and on basic filter theory.

# Contents of the course (course description):

- Basic definitions and theorems of linear and nonlinear system theory. Description of linear systems in time and frequency domain. Introduction to linear system theory. Feedback loop. Stability. Introduction to automatic control. Chaos. Neural networks. Approximation of frequency characteristics.

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

- Signal theory, differential and difference equations, Fourier and Laplace transforms, circuit theory.

#### Courses form and teaching methods:

- Lecture, classes with problem solving, laboratory work

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

- Individual activity during classes,
- Written tests,
- Written examination (solving problems),
- Oral examination.

# **Basic Bibliography:**

# Additional Bibliography: