

Title Simulation of Telecommunications Systems in C++	Code POZ04WTS2ICE06
Field Electronics and Telecommunications	Year / Semester autumn
Specialty Information and Communication Technologies	Course elective
Hours Lectures: 2 Classes: - Laboratory: 2 Projects / seminars: -	Number of credits 5

Lecturer:

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Status of the course in the study program:

Elective course for students of Electronics and Telecommunications,

Objectives of the course:

It aims to introduce students to the breadth of the discipline of practical programming of systems. Furthermore, it presents the methodologies and techniques of computer programming using C++, providing a fairly complete introduction to the language. Explaining the basic problems of simulation software in telecommunication.

Course description:

Lectures: Introduction to C++. C++ programming through object-oriented design, basic ideas of data types, internal data representation, operations, expressions, arrays, control structures for selection and repetition, reusability using functions, function parameters, function templates. Algorithms. Simulation problems. Errors and Objective metrics. Basic problems of linear and nonlinear system theory programming. 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. D.E. Knuth - The Art of Computer Programming, Addison-Wesley Publishing Company, Reading, MA, 1968, 1973.
4. E.W. Dijkstra - A Discipline of Programming, Prentice Hall, Englewood Cliffs, NJ, 1976.
3. J. Grębosz - Symfonia C++, Oficyna Kallimach, Kraków 1996 (in polish).