Poznan University of Technology
Faculty of Electrical Engineering

European **C**redit **T**ransfer **S**ystem

Title **Discrete Mathematics**	Code **1010331421010340620**
Field **Computer Science**	Year / Semester **1 / 2**
Specialty **-**	Course **core**
Hours Lectures: **2** Classes: **2** Laboratory: **-** Projects / seminars: **-**	Number of credits **6**
	Language **polish**

Lecturer:

dr. Hab. Ryszard Płuciennik, Assoc. Prof. e-mail: ryszard.pluciennik@put.poznan.pl

Faculty:

Faculty of Electrical Engineering
ul. Piotrowo 3A
60-965 Poznań
tel. (061) 665-2539, fax. (061) 665-2548
e-mail: office_deef@put.poznan.pl

Status of the course in the study program:

Basic course for Science on Faculty of Electrical Engineering.

Assumptions and objectives of the course:

Getting the competence in interpretation of computer science notions in terms of functions and relations. Applications of mathematical logic, technics of proving theorems, graph theory and recurrentions to solving of practical problems in computer sciences.

Contents of the course (course description):

Elements of mathematical logic. Calculus of sentences. Tautologies. Sets, relations, sequences and functions in turn of discrete mathematics. Methods of proving theorems. Mathematical induction principle. Landau notation. Recurrence definitions and recurrence relations. Euclides algorithm. Fundamental counting problems. Combinatorics. Inclusion-exclusion principle. Binomial method. Directed and undirected graphs. Trees. An application of matrices to the description of graphs and relations. Representing graphs and graphs principle. Shortest path problems.

Introductory courses and the required pre-knowledge:

Basic knowledge of mathematics from secondary school.

Courses form and teaching methods:

Lectures illustrated by examples and counterexamples. Practical exercises on seminars.

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

Two tests and final exam.

Basic Bibliography:

-

Additional Bibliography:

-