Module card

I. GENERAL INFORMATION	
THE WITELON STATE UNIVERSITY OF APPLIED SCIENCES IN LEGNICA DEPARTMENT OF TECHNICAL AND ECONOMIC SCIENCE	
Field	Basic courses
Module title	Mathematics I (B.2)
Language of lecture	English
ECTS points	6
Preliminary conditions:	None

II. Education aims

Familiarize students with basics of advance calculus of function of one variable.

Familiarize students with basics of general algebra and linear algebra.

III. Education outcomes

The student has the necessary knowledge in the field of general and linear algebra and mathematical analysis to correctly identify, describe and interpret concepts in the field of computer science. The student is able to interpret and describe selected concepts in computer science and use the learned mathematical apparatus for the purposes of: specifications, design, analysis and implementation of IT issues.

IV. EDUCATIONAL METHODS

Assesment method: Examination.

Student workload: 150 hours.

V. MODULE TYPE AND CONTENTS

Sequences of numbers and their limits. Numeric series and criteria for their convergence. Limit and continuity of a function of one variable. Elementary functions and their properties. Differential calculus of functions of one variable. Complex numbers and their properties. Complex polynomials and rational functions. Matrices, determinants, systems of linear equations.

VII. ECTS POINT BALANCE SHEET - STUDENT'S WORKLOAD

Category	**Student's workload**
Contact hours	32
Participation in lectures	15
Participation in classes, workshops	15
Exam	2
Independent student's work	118
Preparation for the lecture	40
Preparation for the classes, workshops	58
Preparation for the test	-
Preparation for the exam	20
Preparing the project	-
Preparing multimedia presentation	-

Total numer of hours	150
ECTS points	6

VIII. Recommended literature

1. Z. Michna, *Mathematics*, Publishing House of Wrocław University of Economics, 2008.
2. T. S. Apostol, *Calculus, Volume 1: One-Variable Calculus with an Introduction to Linear Algebra*, Willey, 2007.
3. T. Andreescu, D. Andrica, *Complex numbers from A to… Z,* Birkhauser,2014.