

DESCRIPTION OF THE COURSE OF STUDY FOR EXCHANGE STUDENTS

Name of the course in	English	<i>Mathematical Analysis III</i>
	Polish	<i>Analiza matematyczna III</i>

1. LOCATION OF THE COURSE OF STUDY WITHIN THE SYSTEM OF STUDIES

1.1 Field of study	<i>Mathematics</i>
1.2 Level of study	<i>Undergraduate (BSc)</i>

2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

2.1 Language of instruction	<i>English</i>
2.2 Semesters in which the course of study is offered	<i>Winter (III)</i>
2.3 ECTS credits	<i>7</i>

3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

3.1. Form of the classes	<i>Lecture with exercise sessions</i>
3.2. Form of assessment	<i>Exam (lecture) and assessment (exercise sessions)</i>

4. OBJECTIVES AND SYLLABUS CONTENT

4.1. Course objectives

- C1. Basics of the integration theory.*
C2. Introduction to the theory of sequences and series of functions.
C3. Basics of the multivariable differential calculus.

4.2. Detailed syllabus

- 1. Riemann integral.*
- 2. Intermediate value theorem.*
- 3. Improper integrals.*
- 4. Sequences and series of functions. Uniform convergence.*
- 5. Power series. Taylor's theorem.*
- 6. Implicit function theorem.*
- 7. Conditional extrema.*
- 8. Calculus of mappings. Diffeomorphisms*