DESCRIPTION OF THE COURSE OF STUDY
FOR EXCHANGE STUDENTS

Name of the course in	English	*Mathematical Analysis IV*
	Polish	*Analiza matematyczna IV*

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

1.1 Field of study	*Mathematics*
1.2 Level of study	*Undergraduate (BSc)*

2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

2.1 Language of instruction	*English*
2.2 Semesters in which the course of study is offered	*Spring (IV)*
2.3 ECTS credits	*5*

3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

3.1. Form of classes	*Lecture with exercise sessions*
3.2. Form of assessment	*Exam (Lecture) and assessment (exercise sessions)*

4. OBJECTIVES AND SYLLABUS CONTENT

4.1. Course objectives

C1. Introduction to many-variable integral calculus.
C2. Integral calculus in examples. Applications to geometry, mechanics and physics.

4.2. Detailed syllabus

1. *Integrals with parameters. Convergence. Euler Gamma function.*
2. *Multiple integrals. Fubini's theorem.*
3. *Change of variables.*
4. *Area and volume.*
5. *Integrals over curves and surfaces.*
6. *Stokes theorem.*