DESCRIPTION OF THE COURSE OF STUDY
FOR EXCHANGE STUDENTS

Name of the course in	English	*Probability theory I*
	Polish	*Rachunek prawdopodobieństwa I*

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 basic notions of probability theory.
C2. Shaping the ability to apply basic probabilistic methods.

4.2. Detailed syllabus

1. *Probability space. Basic properties of probability.*
2. *Conditional probability.*
3. *Law of total probability.*
4. *Bayes' theorem.*
5. *Independence.*
6. *Bernoulli scheme.*
7. *Random variables and probability distributions.*
8. *Cumulative distribution function.*
9. *Discrete and continuous probability distributions.*
10. *Random variables with values in vector spaces.*
11. *Convergence of random variables and central limit theorem.*