



Course title	Statistical Learning Models
Institute/Division	Faculty of Computer Science and Mathematics/ Department of Computer Science
Course code	F-1.SLM
Erasmus subject code*	11.2
Number of contact hours**	45 lecture hours (45h)
Course duration	1 semester (Fall)
ECTS credits	6
Course description (max 100 words)	This course is dedicated to a large audience that would like to get acquainted with contemporary techniques of statistical learning.. The course starts with fundamental concepts of statistical learning like density estimation and supervised and unsupervised learning. The second part of the course is dedicated to linear regression models. The third part of the class is dedicated to classification problems. Here concepts like logistic regression and multiple logistic regression is introduced and applied. The use of linear discriminant analysis is shown and k – nearest neighbor study is shown. Large number of practical examples with computational studies in R will be provided.
Literature	1. Textbook.G. James, D. Witten, T. Hastie, R. Tibshirani , An Introduction to Statistical Learning, with applications in R. Springer Verlag 2017. 2. Power Points and R programs provided by the instructor.
Course type/organization	<ul style="list-style-type: none">• Lectures (30h),• Exercises (15h)
Assessment method	The grading scale puts an emphasis on the project work and lab applications. Therefore, the following grade distribution will be introduced Lab work – 50% Final project – 20% Exam – 30 %.
Prerequisites	First year undergraduate level of math (calculus and algebra), some familiarity with R and Matlab helpful.
Primary target group	Computer Sciences students, Applied Math students.
Contact person	Jacek Leśkow, Ph.D.
Remarks	

*please insert one of the following codes:

- 11.0 Mathematics, Informatics
- 11.1 Mathematics
- 11.2 Statistics
- 11.3 Informatics, Computer Science
- 11.4 Artificial Intelligence
- 11.5 Actuarial Science
- 11.9 Others Mathematics, Informatics

**1 lecture hour=45 minutes