

Course title	<i>Machine Learning in Python</i>
Course code	<i>IP 302</i>
Module coordinator	<i>Miriam Heinrich</i>
Lecturer	<i>Sarah Haq</i>
Level of course	<i>Bachelor</i>
Recommended prerequisites	<i>Basic programming and strongly advise taking IP 301 alongside</i>
Type of course	<i>Lecture</i>
Weekly lecture hours (SWS)	<i>2</i>
ECTS credits	<i>2 ECTS</i>
Workload	<i>In total 60 h, 30 h course attendance, 30 h self-study</i>
Assessment (grading; pass/fail)	<i>graded</i>
Regular cycle	<i>Each semester</i>
Language of instruction	<i>English</i>
Contents:	<i>In this class, you will learn the fundamentals of Python programming and gain the practical know-how for applying Machine Learning in Python to solve problems in diverse areas. This course provides a broad introduction to Machine Learning in Python: (i) Fundamentals of Python programming (ii) Exploratory Data Analysis and Visualisations (iii) Using machine learning models for supervised and unsupervised problems.</i>
Learning outcome (competencies):	<i>After having successfully completed the course, the students should</i> <ul style="list-style-type: none"> • <i>grasp the fundamentals of programming in Python, using predominantly data science libraries</i> • <i>know how to explore and visualize large datasets</i> • <i>βε αβλε το μονελ δατα ανδ αππλψ μαχηνε λεαρνινγ τεχηνιθουσ το ρεαλ ωορλδ π ροβλεμσ</i> • <i>επαλυατε τηε περφορμανχε οφ μαχηνε λεαρνινγ μονελσ</i>
Teaching methods	<input checked="" type="checkbox"/> Lecture <input type="checkbox"/> Group work <input checked="" type="checkbox"/> Exercises <input type="checkbox"/> Simulation <input type="checkbox"/> Video feedback <input type="checkbox"/> Others: <i>Please click here for inserting text</i>
Assessment methods	<i>Project work with oral exam</i>
Recommended reading	<i>A. Géron, "Hands-on Machine Learning with Scikit-Learn, Keras & TensorFlow", O'Reilly Media, 2nd Edition, 2019</i>
Additional information	
Recognition of credits	