

<b>Course Name</b>	Introduction to Data Science
<b>Contents and Objectives</b>	<p><u>Content:</u></p> <ul style="list-style-type: none"> <li>• Concept of „Data Science“</li> <li>• Numerical linear algebra for regression methods</li> <li>• Statistical Learning (regression, neural networks, resampling methods)</li> <li>• Regularization methods</li> <li>• Classification (tree- and kernel-based methods)</li> <li>• Unsupervised learning</li> </ul> <p>Objectives: The students get an overview over the field of data science and its application areas. They will be able to answer the most pressing questions and are able to formulate relevant questions as well as choosing the best suited methods. They are able to use methods of machine learning and algorithms from statistics to use within the most prominent software frameworks.</p>
<b>Teaching</b>	<p>This course consists of lectures and exercise classes.</p> <ul style="list-style-type: none"> <li>• Lecture: Introduction to Data Science (4h/week)</li> <li>• Lab exercises: Introduction to Data Science (2h/week)</li> </ul> <p>This class can be taught remotely.</p>
<b>Prerequisites</b>	
<b>Examination</b>	Oral exam (30 minutes)
<b>Credits</b>	8 ECTS points
<b>Frequency</b>	This course is given at least every second year.
<b>Workload</b>	The estimated total working time for this course is 240 hours.
<b>Duration</b>	This course is given during one semester.