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| Modulbezeichnung (Kürzel) | Analytics & Mathematics (ANMA) | |
| Modulbezeichnung (eng.) | Analytics & Mathematics | |
| Semester (Häufigkeit) | WPM (nach Bedarf) | |
| ECTS-Punkte (Dauer) | 5 (1 Semester) | |
| Art | Wahlpflichtmodul | |
| Sprache(n) | Englisch | |
| Studentische Arbeitsbelastung | 60 h Kontaktzeit + 90 h Selbststudium | |
| Voraussetzungen (laut MPO) | | |
| Empf. Voraussetzungen | Mathematical knowledge at Bachelor level | |
| Verwendbarkeit | MII | |
| Prüfungsform und -dauer | Mündliche Prüfung oder Studienarbeit | |
| Lehr- und Lernmethoden | Vorlesung | |
| Modulverantwortliche(r) | E. Wings | |
| Qualifikationsziele | | |
| Students have to be able to estimate and evaluate the numerical challenge of a large amount of data. With the support of a standard-software, students have to be able to analyse, assess and use selected algorithms for high-dimensional problems. On this basis, students will be able to assess the applicability of (commercial) software-packages in a scientific context. | | |
| Lehrinhalte | | |
| The importance of data analysis, especially of a large amount of data (Big Data), is growing in the areas of science and economy. The lecture approaches concepts, algorithms and technology for the analysis of a large amount of data. Numerical methods for solving high-dimensional linear and non-linear systems of equations, as well as the process for calibration and Maximum-Likelihood will be addressed. | | |
| Literatur | | |
| Wu, James; Stephen Coggeshall, Stephen: Foundations of Predictive Analytics. Chapman and Hall/CRC, 2012 | | |
| Bühlmann, Peter; Drineas, Petros; Kane, Michael; van der Laan, Mark: Handbook of Big Data. Chapman and Hall/CRC, 2016 | | |
| R Core Team: R: A Language and Environment for Statistical Computing, R Foundation for Statistical Computing, Wien, Österreich http://www.R-project.org/ . | | |
| Lehrveranstaltungen | | |
| Dozenten/-innen | Titel der Lehrveranstaltung | SWS |
| E. Wings, A. W. Colombo | Analytics & Mathematics | 4 |