|  |  |
| --- | --- |
| Module name | **System theory** |
| Module coordinator/  Module leaders | Prof. Dr. Bachmann |
| Qualification goals | Students learn and understand the basic contents and approaches of systems theory. They can apply their knowledge to the design of system solutions.  Professional competence 20 %  Methodological competence 50 %  System competence 30 %  Social competence 0 % |
| Module contents | Systems theory describes the effect of signals on different constellations of processes and natural and technical structures. It primarily uses a mathematical form of description. The theoretical content is explained in a practical way based on important application scenarios for systems theory. The use of modern software tools supports efficient access and in-depth insight into the subject area. |
| Teaching methods | Lecture / Exercise: 4 SWS  Lecture share: 3 SWS  Proportion exercise: 1 SWS  Analysis and discussion of documented example systems using suitable tools, seminar-style lecture |
| Requirements for participation | Recommended: Control engineering in the Bachelor's program |
| Literature/ multimedia teaching and learning programs | Lecture notes, exercise materials  Documentations |
| Textbook author |  |
| Usability |  |
| Workload/  Total workload | Attendance time 60 h + self-study 90 h = 150 h = 5 credit points |
| ECTS and weighting of the grade in the overall grade | 5 ECTS credits |
| Proof of performance | written examination |
| Semester | Summer semester |
| Frequency of the offer | Every academic year in the summer semester |
| Duration | 4 SWS |
| Type of course  (compulsory, optional, etc.) | Compulsory elective module |
| Special |  |