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| Course title | <i>Digital Electronics</i> |
| Course code | <i>EEIB240</i> |
| Module coordinator | <i>Miriam Heinrich</i> |
| Lecturer | <i>Prof. Dr. Philipp Nenninger</i> |
| Level of course | <i>Bachelor</i> |
| Recommended prerequisites | Klicken oder tippen Sie hier, um Text einzugeben. |
| Type of course | <i>Lecture</i> |
| Weekly lecture hours (SWS) | <i>4</i> |
| ECTS credits | <i>6</i> |
| Workload | <i>in total 120 h, 60 h course attendance, 60 h self-study</i> |
| Assessment (grading; pass/fail) | <i>graded</i> |
| Regular cycle | <i>Summer Semester</i> |
| Language of instruction | <i>English</i> |
| Contents: | <ul style="list-style-type: none"> • <i>Number systems</i> • <i>Codes</i> • <i>Booleen Algebra</i> • <i>Karnaugh-Veitch-Diagrams</i> • <i>Basic circuits of digital technology</i> • <i>Calculation circuits</i> • <i>Multiplexer</i> • <i>Digital Circuits</i> • <i>Derailleurs</i> • <i>Shift register</i> |
| Learning outcome (competencies): | <p><i>With the successful completion of the module students can design and implement digital circuits by:</i></p> <ul style="list-style-type: none"> • <i>Representing numbers in numeral systems with different radices</i> • <i>Formulating and simplifying expressions in Boolean algebra</i> • <i>Minimizing sequential circuits</i> • <i>Composing complex sequential circuits from simple logic gates</i> • <i>Specifying simple digital circuits using a hardware description language</i> • <i>Analyzing digital signals and systems in order to control systems with digital systems.</i> |
| Teaching methods | <input checked="" type="checkbox"/> Lecture <input type="checkbox"/> Group work <input type="checkbox"/> Exercises <input type="checkbox"/> Simulation <input type="checkbox"/> Video feedback <input type="checkbox"/> Others: Please click here for inserting text |
| Assessment methods | <i>Written exam</i> |
| Recommended reading | <ul style="list-style-type: none"> • <i>Tocci, Ronald; Widmer, Neal and Moss, Greg: Digital Systems: Principles and Applications (11th Edition), Pearson, 2010</i> • <i>Ashenden, Peter J.: The Designer's Guide to VHDL. Morgan Kaufmann Publishers, 3. Edition.</i> |
| Additional information | <i>Please fill in</i> |
| Recognition of credits | <i>Will be filled in by coordinators</i> |