Course title	*Digital Signal Processors*
Course code	*EITB622A*
Module coordinator	*Miriam Heinrich*
Lecturer	*Prof. Dr. Christian Langen*
Level of course	*Bachelor*
Recommended prerequisites	*Knowledge in Digital Signal Processing*
Type of course	*Lecture*
Weekly lecture hours (SWS)	*2*
ECTS credits	*2*
Workload	*in total 60 h, 30 h course attendance, 30 h self-study*
Assessment (grading; pass/fail)	*graded*
Regular cycle	*Summer semester*
Language of instruction	*English*
Contents:	*After a brief explanation of the the architecture and characteristics of digital signal processors, the focus of this lecture is on programming real-time applications and the implementation of typical algorithms in digital signal processing, such as filtering, the generation of sinusoids etc. The usage of interrupts, DMA and serial ports is an important topic.*
Learning outcome (competencies):	*Course objectives expressed in learning outcomes and competences: After having successfully completed the course, the students should:* • *be able to choose the signal processor which suits the needs of the application,* • *be able to implement DSP algorithms on the processor, to profile them and to get them working in real time.*
Teaching methods	*☒Lecture ☐Group work* *☒Exercises ☐Simulation* *☐Video feedback ☐Others:*
Assessment methods	*Presentation, Project work, Oral exam*
Recommended reading	*Doblinger Gerhard: Signalprozessoren : Architekturen, Algorithmen, Anwendungen, Schlembach, Weil der Stadt, 2000.* *Dahnoun, Naim: DSP implementation using the TMS320C6000 DSP platform, Prentice Hall, Harlow, 2000.* *Bateman, Andrew: The DSP handbook : algorithms, applications and design techniques, Prentice Hall, Harlow, 2002* *Kehtarnavaz, Nasser, Simsek, Burc: C6x-Based Digital Signal Processing, Prentice Hall, Upper Saddle River, NJ, 2000.*
Additional information	
Recognition of credits	