

Department	04 Electrical Engineering and Information Technology
Course title	Advanced Analog Circuit Design
Hours per week (SWS)	4
Number of ECTS credits	5
Course objective	The students acquire the ability to analyze and understand discrete and integrated analog circuits. They know state of the art and advanced design techniques and understand the key parameters of commercial integrated circuits. They learn to read and interpret data sheets of circuits enabling them to operate ICs under optimal conditions and optimize interfacing circuit blocks with respect to performance and power.
Prerequisites	Basic knowledge of CMOS and bipolar transistors, operational amplifiers, analysis methods for electrical networks, circuit simulation
Recommended reading	Paul R. Gray, Paul J. Hurst, Stephen H. Lewis, Robert G. Meyer: Analysis and Design of Analog Integrated Circuits. John Wiley, 5. Edition (International Student Version), 2009. Behzad Razavi: Design of Analog CMOS Integrated Circuits. McGraw-Hill Higher Education, 2003. Ulrich Tietze, Christoph Schenk, Eberhard Gamm: Electronic Circuits: Handbook for Design and Application. Springer, 2008.
Teaching methods	Seminar-style lecture with integrated laboratory hours, seminar
Assessment methods	Written exam, grade assessment, duration: 90 minutes
Language of instruction	English
Name of lecturer	Prof. Dr. Reinhold Unterricker, Prof. Dr. Christian Münker
Email	reinhold.unterricker@hm.edu, christian.muenker@hm.edu
Link	
Course content	Review of electronic components Modeling and simulation Fundamental circuit techniques Amplifiers Operational amplifiers Noise Data converters
Remarks	