

# Studienplan BSc Electrical and Computer Engineering: Profil *Embedded Hard- and Software*

Module in schwarzer Schrift: Für das Profil förderliche Module

Module in grauer Schrift: Allgemeine Module

1. Semester	2. Semester	3. Semester	4. Semester	5. Semester	6. Semester	
Elektropraktikum 1 <span style="background-color: yellow;">2</span>	Elektropraktikum 2 <span style="background-color: yellow;">2</span>	Elektronik 1 <span style="background-color: yellow;">3</span>	Elektronik 2 <span style="background-color: yellow;">3</span>	Sensorik 1 <span style="background-color: blue;">4</span>	Sensorik 2 <span style="background-color: blue;">4</span>	Elektrotechnik Grundlagen (mind. 64 ECTS)
				Digital Microelectronics <span style="background-color: blue;">4</span>	Analog Microelectronics <span style="background-color: blue;">4</span>	
Digitaltechnik <span style="background-color: yellow;">3</span>	Computer Engineering 1 <span style="background-color: yellow;">3</span>	Computer Engineering 2 <span style="background-color: yellow;">3</span>	Digital Design <span style="background-color: yellow;">3</span>	Embedded Systems 1 <span style="background-color: blue;">4</span>	Embedded Systems 2 <span style="background-color: blue;">4</span>	
Programmieren in C <span style="background-color: yellow;">4</span>	Programmieren in C++ <span style="background-color: yellow;">4</span>	Software Engineering Fundamentals <span style="background-color: yellow;">3</span>	Software Architecture and Design <span style="background-color: yellow;">3</span>	Embedded Software Engineering 1 <span style="background-color: blue;">4</span>	Embedded Software Engineering 2 <span style="background-color: blue;">4</span>	
			Python <span style="background-color: yellow;">3</span>	Image Processing and Computer Vision 1 <span style="background-color: blue;">4</span>	Image Processing and Computer Vision 2 <span style="background-color: blue;">4</span>	
		Signale & Systeme 1 <span style="background-color: yellow;">3</span>	Signale & Systeme 2 <span style="background-color: yellow;">3</span>	Digital Signal Processing 1 <span style="background-color: blue;">4</span>	Digital Signal Processing 2 <span style="background-color: blue;">4</span>	
		Java für C++ Programmierer <span style="background-color: yellow;">3</span>	Parallele Programmierung <span style="background-color: grey;">4</span>	Statistical Machine Learning <span style="background-color: blue;">4</span>	Deep Learning <span style="background-color: blue;">4</span>	
		Regelungstechnik 1 <span style="background-color: yellow;">3</span>	Regelungstechnik 2 <span style="background-color: yellow;">3</span>	Regelungstechnik 3 <span style="background-color: blue;">4</span>	Regelungstechnik 4 <span style="background-color: blue;">4</span>	
		Nachrichtentechnik 1 <span style="background-color: yellow;">3</span>	Nachrichtentechnik 2 <span style="background-color: yellow;">3</span>	Wireless Communications 1 <span style="background-color: blue;">4</span>	Wireless Communications 2 <span style="background-color: blue;">4</span>	
		Wechsel- & Drehstromtechnik <span style="background-color: yellow;">3</span>	Elektrische Maschinen <span style="background-color: yellow;">3</span>	Leistungselektronik <span style="background-color: blue;">4</span>	Energiesysteme <span style="background-color: blue;">4</span>	
Elektrotechnik 1 <span style="background-color: yellow;">3</span>	Elektrotechnik 2 <span style="background-color: yellow;">3</span>	Elektrotechnik 3 <span style="background-color: yellow;">3</span>	Elektrotechnik 4 <span style="background-color: yellow;">3</span>	PCB-Design und EMV <span style="background-color: yellow;">3</span>	Angew. Elektromagnetismus: Felder & Wellen <span style="background-color: blue;">4</span>	Elektrotechnik Aufbau (mind. 32 ECTS)
				UI Patterns and Frameworks <span style="background-color: grey;">4</span>	User Experience <span style="background-color: grey;">4</span>	
				<b>Studienarbeit Elektrotechnik</b> <span style="background-color: blue;">8</span>	<b>Bachelorarbeit Elektrotechnik</b> 12	
Analysis 1a für E <span style="background-color: grey;">4</span>	Analysis 2a für E <span style="background-color: grey;">4</span>	Wahrscheinlichkeitsrechnung & Statistik <span style="background-color: grey;">4</span>	Funktionen mehrerer Variablen <span style="background-color: grey;">4</span>			
Analysis 1b für E <span style="background-color: grey;">4</span>	Analysis 2b für E <span style="background-color: grey;">4</span>	Integraltransformationen <span style="background-color: grey;">2</span>				
Lineare Algebra <span style="background-color: grey;">4</span>	Komplexe Zahlen & Fourierreihen <span style="background-color: grey;">4</span>					
Physik 1 <span style="background-color: green;">4</span> Mechanik	Physik 2 <span style="background-color: green;">4</span> Hydro- & Aeromechanik, Thermodynamik	Physik 3 <span style="background-color: green;">4</span> Schwingungen, Wellen, Optik	Physikpraktikum <span style="background-color: green;">2</span>			
			Elektrochemie <span style="background-color: green;">2</span>			
			Halbleiterphysik <span style="background-color: green;">2</span>			
		IKTS-Modul (Blockwoche) Interdisziplinäres Kontextstudium <span style="background-color: pink;">3</span>				
				Business und Recht 1 <span style="background-color: yellow;">4</span> Recht für Ingenieure Businessplan	Business und Recht 2 <span style="background-color: yellow;">4</span> Info-, Technologie- + Lizenzvertragsrecht Managementsimulation	Standard-Module (ohne Kategorie):  Gesellschaft, Wirtschaft, Recht  Sprachen und Kommunikation
English: How Things work <span style="background-color: yellow;">4</span>	English: Selling Technology <span style="background-color: yellow;">4</span>				VWL und Technikgeschichte <span style="background-color: yellow;">4</span> VWL, Wirtschaftspolitik, Technikgeschichte Technikfolgenabschätzung	
English: The World of Science <span style="background-color: yellow;">4</span>	English Beyond Borders: Navigating Academic & Professional Success with IELTS <span style="background-color: yellow;">4</span>			Rhetorische Kommunikation für Ingenieur/-innen <span style="background-color: yellow;">4</span>		