

# Studienplan BSc Electrical and Computer Engineering: **Profil Automation, Control and Robotics**

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 2 <span style="background-color: blue;">4</span>	Sensorik 1 <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>	
		Signale & Systeme 1 <span style="background-color: yellow;">3</span>	Signale & Systeme 2 <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>	
				Digital Signal Processing 1 <span style="background-color: blue;">4</span>	Digital Signal Processing 2 <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>	Statistical Machine Learning <span style="background-color: blue;">4</span>	Deep Learning <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>	Regelungstechnik 3 <span style="background-color: blue;">4</span>	Regelungstechnik 4 <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>	Wireless Communications 1 <span style="background-color: blue;">4</span>	Wireless Communications 2 <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>	Leistungselektronik <span style="background-color: blue;">4</span>	Energiesysteme <span style="background-color: blue;">4</span>	
				PCB-Design und EMV <span style="background-color: yellow;">3</span>	Angew. Elektromagnetismus: Felder & Wellen <span style="background-color: blue;">4</span>	
				Mechatronik 1 <span style="background-color: grey;">4</span>	Mechatronik 2 <span style="background-color: grey;">4</span>	
				Robotik <span style="background-color: grey;">4</span>		
				Studienarbeit Elektrotechnik <span style="background-color: blue;">8</span>	Bachelorarbeit Elektrotechnik <span style="background-color: blue;">12</span>	
Analysis 1a für E <span style="background-color: brown;">4</span>	Analysis 2a für E <span style="background-color: brown;">4</span>	Wahrscheinlichkeitsrechnung & Statistik <span style="background-color: brown;">4</span>	Funktionen mehrerer Variablen <span style="background-color: brown;">4</span>			
Analysis 1b für E <span style="background-color: brown;">4</span>	Analysis 2b für E <span style="background-color: brown;">4</span>	Integraltransformationen <span style="background-color: brown;">2</span>				
Lineare Algebra <span style="background-color: brown;">4</span>	Komplexe Zahlen & Fourierreihen <span style="background-color: brown;">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>			Naturwissenschaften (mind. 14 ECTS)
			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>				IKTS-Modul (mind. 3 ECTS)
				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):
					VWL und Technikgeschichte <span style="background-color: yellow;">4</span> VWL, Wirtschaftspolitik, Technikgeschichte Technikfolgenabschätzung	
English: How Things work <span style="background-color: yellow;">4</span>	English: Selling Technology <span style="background-color: yellow;">4</span>			Rhetorische Kommunikation für Ingenieur/-innen <span style="background-color: yellow;">4</span>		Gesellschaft, Wirtschaft, Recht Sprachen und Kommunikation
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>					