



Programme Guide for Undergraduate Taught Programmes Engineering and Physical Sciences – Dubai Campus

Academic Year 202425

[Academic Year Calendar for 202425](#)

[Students are encouraged to check the Academic Calendar and be familiarise with the dates]

Undergraduate Taught Programme Guide – September

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BEng Chemical Engineering

Programme Name	:	Beng Chemical Engineering				
Programme Code	:	B411-CEN				
Mode of Study	:	Full Time				
Key Contacts						
Designation	Name	Contact Email				
Programme Director	Dr Nasir Al Lagtah	n.al_lagtah@hw.ac.uk				
Year 1 & 2 Coordinator	Dr Manjula Nair	manjula.nair@hw.ac.uk				
Year 3 & 4 Coordinator	Dr Nasir Al Lagtah	n.al_lagtah@hw.ac.uk				
Course Code	Course Title	Mandatory/ Optional	Year	Semester	Semester Dates	
New Students						
Year 1						
September Semester – 4 Mandatory Courses						
B17CA	Principles of Chemistry	Mandatory	1	September	Sept 2024 To Dec 2024	
B47AE	Engineering Professionalism and Technical Communication	Mandatory	1	September		
F17XA	Mathematics for Engineers and Scientists 1	Mandatory	1	September		
B47AF	Introduction to Process Engineering*	Mandatory	1	Sept & Jan		
* Note: B47AF is a two-semester course that requires registration in the September Semester.						
January Semester – 3 Mandatory Courses						
B17CB	Chemical Reactivity	Mandatory	1	January	Jan 2025 To Apr 2025	
B57AU	Introduction to Mechanical Engineering	Mandatory	1	January		
F17XB	Mathematics for Engineers and Scientists 2	Mandatory	1	January		
Direct Entry & Continuing Students						
Year 2						
September Semester – 4 Mandatory Courses						
B18AP	Chemical Thermodynamics & Introductory Chemical Kinetics for Chemical Engineers	Mandatory	2	September	Sept 2024 To Dec 2024	
B48BF	Industrial Chemical Processes	Mandatory	2	September		
B48BB	Fluid Mechanics	Mandatory	2	September		
F18XC	Mathematics for Engineers and Scientists 3	Mandatory	2	September		
January Semester – 4 Mandatory Courses						
B48BC	Thermodynamics	Mandatory	2	January	Jan 2025 To Apr 2025	
B48BD	Heat Transfer	Mandatory	2	January		
B48BE	Process Design A	Mandatory	2	January		
B48BG	Mathematical Modelling for Chemical Engineers	Mandatory	2	January		

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Year 3					
September Semester – 4 Mandatory Courses					
B49CH	Process Control	Mandatory	3	September	Sept 2024 To Dec 2024
B49CA	Separation Processes A	Mandatory	3	September	
B49CJ	Sustainable Development and Engineering Management	Mandatory	3	September	
B49CC	Chemical Reaction Engineering	Mandatory	3	September	
January Semester – 4 Mandatory Courses					
B49CD	Separation Processes B	Mandatory	3	January	Jan 2025 To Apr 2025
B49CE	Multiphase Thermodynamics	Mandatory	3	January	
B99BP	Bioprocessing	Mandatory	3	January	
B49CI	Process Health & Safety	Mandatory	3	January	
Year 4					
September Semester – 4 Mandatory Courses					
B40DI	Separation Processes C	Mandatory	4	September	Sept 2024 To Dec 2024
B40DJ	Sustainability Management and Process Economics	Mandatory	4	September	
B40DK	Process Integration, Optimisation and Analysis	Mandatory	4	September	
B40HE	Process Engineering Design Project *	Mandatory	4	September	
<p>* Note: B40HE is a two-semester course that requires registration in the September Semester.</p>					
January Semester – 3 Mandatory Courses					
B40DD	Reaction Engineering	Mandatory	4	January	Jan 2025 To Apr 2025
B40DL	Particle Technology	Mandatory	4	January	
B40DM	Applied Transport Phenomena	Mandatory	4	January	

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BEng Electrical & Electronic Engineering

Programme Name	:	BEng Electrical & Electronic Engineering				
Programme Code	:	B311-EEE				
Mode of Study	:	Full Time				
Key Contacts						
Designation		Name		Contact Email		
Programme Director		Dr Senthil A Muthukumaraswamy		m.senthilarumugam@hw.ac.uk		
Year 1 Coordinator		Dr Rula Sharqi		r.sharqi@hw.ac.uk		
Year 2 Coordinator		Mr Mounif Abdallah		m.abdallah@hw.ac.uk		
Year 3 Coordinator		Dr Ahmad Yasser AFAGHANI		A.AFAGHANI@hw.ac.uk		
Year 4 Coordinator		Dr Senthil A Muthukumaraswamy		m.senthilarumugam@hw.ac.uk		
Course Code	Course Title		Mandatory/Optional	Year	Semester	Semester Dates
New Students						
Year 1						
September Semester – 4 Mandatory Courses						
B37EE	Introduction to Electrical and Electronic Engineering		Mandatory	1	September	Sept 2024 To Dec 2024
B27MW	Mechanics, Fields and Forces		Mandatory	1	September	
B37VA	Praxis Electronic Design		Mandatory	1	September	
F17XA	Mathematics for Engineers and Scientists 1		Mandatory	1	September	
January Semester – 4 Mandatory Courses						
F17XB	Mathematics for Engineers and Scientists 2		Mandatory	1	January	Jan 2025 To Apr 2025
B37VB	Praxis Programming		Mandatory	1	January	
B57AU	Introduction to Mechanical Engineering		Mandatory	1	January	
B27FF	Waves and Matter		Mandatory	1	January	
Direct Entry & Continuing Students						
Year 2						
September Semester– 4 Mandatory Courses						
B38DB	Digital Design and Programming		Mandatory	2	September	Sept 2024 To Dec 2024
B38EB	Circuits and Analysis		Mandatory	2	September	
B49CJ	Sustainable Development and engineering management		Mandatory	2	September	
F18XC	Mathematics for Engineers and Scientists 3		Mandatory	2	September	
January Semester– 4 Mandatory Courses						
B38DF	Computer Architecture and Embedded Systems		Mandatory	2	January	Jan 2025 To Apr 2025
B38EI	Electrical Power and Machines		Mandatory	2	January	
B38EM	Intro Electricity & Magnetism		Mandatory	2	January	
F18XD	Mathematics for Engineers and Scientists 4		Mandatory	2	January	
Year 3						
September Semester– 4 Mandatory Courses						
B39AX	Engineering Mathematics and Statistics		Mandatory	3	September	Sept 2024 To Dec 2024
B39ES	Electrical Energy Systems		Mandatory	3	September	
B39SA	Signals and Systems		Mandatory	3	September	
B39SE	Semiconductor Electronics		Mandatory	3	September	

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January Semester – 3 Mandatory Courses					
B39MA	Electromagnetism	Mandatory	3	January	Jan 2025 To Apr 2025
B39SB	Time and Frequency Signal Analysis	Mandatory	3	January	
B39VS	System Project	Mandatory	3	January	
Year 4					
September Semester– 1 Mandatory and 3 Optional Course(s)					
B30UB	4th Year Project 1	Mandatory	4	September	Sept 2024 To Dec 2024
B30EI	Advanced Analogue Electronics	Optional	4	September	
B30EJ	Linear Control	Optional	4	September	
B31SC	Digital Signal Processing	Optional	4	September	
January Semester– 1 Mandatory and 2 Optional Course(s)					
B30UC	4th Year Project II	Mandatory	4	January	Jan 2025 To Apr 2025
B30EK	Sustainable Energy and Power Systems	Optional	4	January	
B30ES	Industrial Power Systems	Optional	4	January	
<p>Note: Optional courses are offered based on most students' choices. Further details will be provided at the during Week 0 and Week 1</p>					

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BEng Robotics, Autonomous & Interactive Systems

Programme Name	:	BEng Robotics, Autonomous & Interactive Systems			
Programme Code	:	B344-RAI			
Mode of Study	:	Full Time			
Key Contacts					
Designation	Name	Contact Email			
Programme Director	Dr Senthil A Muthukumaraswamy	m.senthilarumugam@hw.ac.uk			
Year 1 Coordinator	Dr Rula Sharqi	r.sharqi@hw.ac.uk			
Year 2 Coordinator	Mr Mounif Abdallah	m.abdallah@hw.ac.uk			
Year 3 Coordinator	Dr Ahmad Yasser AFAGHANI	A.AFAGHANI@hw.ac.uk			
Year 4 Coordinator	Dr Senthil A Muthukumaraswamy	m.senthilarumugam@hw.ac.uk			
Course Code	Course Title	Mandatory/Optional	Year	Semester	Semester Dates
New Students					
Year 1					
September Semester– 4 Mandatory Courses					
B37EE	Introduction to Electrical and Electronic Engineering	Mandatory	1	September	Sept 2024 To Dec 2024
B37VA	Praxis Electronic Design	Mandatory	1	September	
F27SA	Software Development 1	Mandatory	1	September	
F17XA	Mathematics for Engineers and Scientists 1	Mandatory	1	September	
January Semester– 4 Mandatory Courses					
F17XB	Mathematics for Engineers and Scientists 2	Mandatory	1	January	Jan 2025 To Apr 2025
B37VB	Praxis Programming	Mandatory	1	January	
B37VR	Robotics Group Project	Mandatory	1	January	
F27SB	Software Development 2	Mandatory	1	January	
Direct Entry & Continuing Students					
Year 2					
September Semester – 4 Mandatory Courses					
B38DB	Digital Design and Programming	Mandatory	2	September	Sept 2024 To Dec 2024
B38EB	Circuits and Analysis	Mandatory	2	September	
F28SG	Introduction to Data Structures & Algorithms	Mandatory	2	September	
F18XC	Mathematics for Engineers and Scientists 3	Mandatory	2	September	
January Semester– 4 Mandatory Courses					
B38DF	Computer Architecture and Embedded Systems	Mandatory	2	January	Jan 2025 To Apr 2025
B38RO	Introduction to Robotics	Mandatory	2	January	
F28DA	Data Structures and Algorithms	Mandatory	2	January	
F18XD	Mathematics for Engineers and Scientists 4	Mandatory	2	January	
Year 3					
September Semester– 4 Mandatory Courses					
B39AX	Engineering Mathematics and Statistics	Mandatory	3	September	Sept 2024 To Dec 2024
B49CJ	Sustainable Development and engineering management	Mandatory	3	September	
B39SA	Signals and Systems	Mandatory	3	September	
F29AI	Artificial Intelligence and Intelligent Agents	Mandatory	3	September	

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January Semester– 3 Mandatory Courses					
B38EI	Electrical Power and Machines	Mandatory	3	January	Jan 2025 To Apr 2025
B39SB	Time and Frequency Signal Analysis	Mandatory	3	January	
B39VS	System Project	Mandatory	3	January	
Year 4					
September Semester– 1 Mandatory and 3 Optional Course(s)					
B30UB	4th Year Project 1	Mandatory	4	September	Sept 2024 To Dec 2024
B30EJ	Linear Control	Optional	4	September	
B31DD	Embedded Systems	Optional	4	September	
B31YS	Robotics Systems Science	Optional	4	September	
B50EO	Dynamics 1	Optional	4	September	
F20RO	Intelligent Robotics	Optional	4	September	
F20BC	Biologically Inspired Computing	Optional	4	September	
F20DL	Data Mining & Machine Learning	Optional	4	September	
January Semester– 1 Mandatory and 2 Optional Course(s)					
B30UC	4th Year Project II	Mandatory	4	January	Jan 2025 To Apr 2025
B50RO	Robotic Mechanical Systems	Optional	4	January	
B31SE	Image Processing	Optional	4	January	
F20AD	Advanced Human-Computer Interaction	Optional	4	January	

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BEng Mechanical Engineering

Programme Name	:	BEng Mechanical Engineering			
Programme Code	:	B511-MEG			
Mode of Study	:	Full Time			
Key Contacts					
Designation	Name	Contact Email			
Programme Director	Dr Rehan Ahmed	R.Ahmed@hw.ac.uk			
Year 1 Coordinator	Olga Potapova-Crighton; Al-Musleh, Mohamed	O.Potapova-Crighton@hw.ac.uk ; M.Al-Musleh@hw.ac.uk			
Year 2 Coordinator	Dr Ahmed Oumer	A.OUMER@hw.ac.uk			
Year 3 Coordinator	Dr Fadi Albadour	F.Al-Badour@hw.ac.uk			
Year 4 Coordinator	Dr Omar Sharaf	O.Sharaf@hw.ac.uk			
Course Code	Course Title	Mandatory/ Optional	Year	Semester	Semester Dates
New Students					
Year 1					
September Semester– 4 Mandatory Courses					
B37EE	Introduction to Electrical and Electronic Engineering	Mandatory	1	September	Sept 2024 To Dec 2024
B27MW	Mechanics, Fields and Forces	Mandatory	1	September	
B57AS	Engineering in Context 1	Mandatory	1	September	
F17XA	Mathematics for Engineers and Scientists 1	Mandatory	1	September	
January Semester– 4 Mandatory Courses					
F17XB	Mathematics for Engineers and Scientists 2	Mandatory	1	January	Jan 2025 To Apr 2025
B57AT	Engineering in Context 2	Mandatory	1	January	
B57AU	Introduction to Mechanical Engineering	Mandatory	1	January	
B27FF	Waves and Matter	Mandatory	1	January	
Direct Entry & Continuing Students					
Year 2					
September Semester – 4 Mandatory Courses					
B58DB	Design and Manufacture 2	Mandatory	2	September	Sept 2024 To Dec 2024
B58FB	Fluid Mechanics A	Mandatory	2	September	
B58SB	Strength of Materials A	Mandatory	2	September	
F18XC	Mathematics for Engineers and Scientists 3	Mandatory	2	September	
January Semester – 4 Mandatory Courses					
B58MB	Dynamics	Mandatory	2	January	Jan 2025 To Apr 2025
B38EI	Electrical Power and Machines	Mandatory	2	January	
B58TB	Thermodynamics A	Mandatory	2	January	
F18XD	Mathematics for Engineers and Scientists 4	Mandatory	2	January	
Year 3					
September Semester – 4 Mandatory Courses					
B49CJ	Sustainable Development and Engineering Management	Mandatory	3	September	Sept 2024 To Dec 2024
B59DE	Design and manufacture 3	Mandatory	3	September	
B59FC	Fluid Mechanics B	Mandatory	3	September	
B59SC	Mechanics of Materials B	Mandatory	3	September	

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January Semester – 3 Mandatory & 1 Optional Course(s)					
B59MC	Vibration Analysis & Control Engineering	Mandatory	3	January	Jan 2025 To Apr 2025
B59TC	Thermodynamics B	Mandatory	3	January	
B59DF	Design and Manufacture 4	Mandatory	3	January	
B59AC	Automotive Technologies 1	Optional	3	January	
B59ES	Energy Studies	Optional	3	January	
Year 4					
September Semester – 2 Mandatory and 2 Optional Courses					
B50DG	Engineering Design	Mandatory	4	September	Sept 2024 To Dec 2024
B50PR	Mechanical Engineering Individual Project *	Mandatory	4	September	
B50EO	Dynamics 1	Optional	4	September	
B50EM	Advanced Mechanics of Materials 1	Optional	4	September	
B50EK	Incompressible Fluid Dynamics	Optional	4	September	
B50TE	Heat Exchangers and HT	Optional	4	September	
* Note: B50PR is a two-semester course that requires registration in the September Semester.					
January Semester – 1 Mandatory and 2 Optional Courses					
B50DH	Engineering Manufacture	Mandatory	4	January	Jan 2025 To Apr 2025
B50EL	Compressible Fluid Dynamics	Optional	4	January	
B50EN	Advanced Mechanics of Materials 2	Optional	4	January	
B50EP	Dynamics 2	Optional	4	January	
B50TF	Adv Thermodynamic Applications	Optional	4	January	
B50RO	Robotic Mechanical Systems	Optional	4	January	

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BEng Mechanical Engineering & Energy Engineering

Programme Name	: BEng Mechanical Engineering& Energy Engineering				
Programme Code	: B542-MEE				
Mode of Study	: Full Time				
Key Contacts					
Designation	Name	Contact Email			
Programme Director	Dr Rehan Ahmed	R.Ahmed@hw.ac.uk			
Year 1 Coordinator	Olga Potapova-Crighton; Al-Musleh, Mohamed	O.Potapova-Crighton@hw.ac.uk ; M.Al-Musleh@hw.ac.uk			
Year 2 Coordinator	Dr Ahmed Oumer	A.OUMER@hw.ac.uk			
Year 3 Coordinator	Dr Fadi Albadour	F.Al-Badour@hw.ac.uk			
Year 4 Coordinator	Dr Omar Sharaf	O.Sharaf@hw.ac.uk			
Course Code	Course Title	Mandatory/ Optional	Year	Semester	Semester Dates
New Students					
Year 1					
September Semester – 4 Mandatory Courses					
B37EE	Introduction to Electrical and Electronic Engineering	Mandatory	1	September	Sept 2024 To Dec 2024
B27MW	Mechanics, Fields and Forces	Mandatory	1	September	
B57AS	Engineering in Context 1	Mandatory	1	September	
F17XA	Mathematics for Engineers and Scientists 1	Mandatory	1	September	
January Semester – 4 Mandatory Courses					
F17XB	Mathematics for Engineers and Scientists 2	Mandatory	1	January	Jan 2025 To Apr 2025
B57AT	Engineering in Context 2	Mandatory	1	January	
B57AU	Introduction to Mechanical Engineering	Mandatory	1	January	
B27FF	Waves and Matter	Mandatory	1	January	
Direct Entry & Continuing Students					
Year 2					
September Semester – 4 Mandatory Courses					
B58DB	Design and Manufacture 2	Mandatory	2	September	Sept 2024 To Dec 2024
B58FB	Fluid Mechanics A	Mandatory	2	September	
B58SB	Strength of Materials A	Mandatory	2	September	
F18XC	Mathematics for Engineers and Scientists 3	Mandatory	2	September	
January Semester – 4 Mandatory Courses					
B58MB	Dynamics	Mandatory	2	January	Jan 2025 To Apr 2025
B38EI	Electrical Power and Machines	Mandatory	2	January	
B58TB	Thermodynamics A	Mandatory	2	January	
F18XD	Mathematics for Engineers and Scientists 4	Mandatory	2	January	
Year 3					
September Semester – 4 Mandatory Courses					
B49CJ	Sustainable Development and Engineering Management	Mandatory	3	September	Sept 2024 To Dec 2024
B59DE	Design and manufacture 3	Mandatory	3	September	
B59FC	Fluid Mechanics B	Mandatory	3	September	
B59SC	Mechanics of Materials B	Mandatory	3	September	

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January Semester – 4 Mandatory Courses					
B59MC	Vib Analysis & Control Eng	Mandatory	3	January	Jan 2025 To Apr 2025
B59TC	Thermodynamics B	Mandatory	3	January	
B59DF	Design and Manufacture 4	Mandatory	3	January	
B59ES	Energy Studies	Mandatory	3	January	
Year 4					
September Semester – 4 Mandatory Courses					
B50DG	Engineering Design	Mandatory	4	September	Sept 2024 To Dec 2024
B50TE	Heat Exchangers and HT	Mandatory	4	September	
G10UG	Introduction to Petroleum Engineering	Mandatory	4	September	
B50PR	Mechanical Engineering Individual Project *	Mandatory	4	September	
* Note: B50PR is a two-semester course that requires registration in the September Semester.					
January Semester – 2 Mandatory and 1 Optional Course(s)					
B50DH	Engineering Manufacture	Mandatory	4	January	Jan 2025 To Apr 2025
B50TF	Adv Thermodynamic Applications	Mandatory	4	January	
B50EL	Compressible Fluid Dynamics	Optional	4	January	
B50EP	Dynamics 2	Optional	4	January	

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BEng Automotive Engineering

Programme Name	: BEng Automotive Engineering				
Programme Code	: B564-AUE				
Mode of Study	: Full Time				
Key Contacts					
Designation	Name	Contact Email			
Programme Director	Dr Rehan Ahmed	R.Ahmed@hw.ac.uk			
Year 1 Coordinator	Mr Mohamed Al-Musleh	M.Al-Musleh@hw.ac.uk			
Year 2 Coordinator	Dr Ahmed Oumer	A.OUMER@hw.ac.uk			
Year 3 Coordinator	Dr Fadi Albadour	F.Al-Badour@hw.ac.uk			
Year 4 Coordinator	Dr Omar Sharaf	O.Sharaf@hw.ac.uk			
Course Code	Course Title	Mandatory/ Optional	Year	Semester	Semester Dates
New Students					
Year 1					
September Semester – 4 Mandatory Courses					
B37EE	Introduction to Electrical and Electronic Engineering	Mandatory	1	September	Sept 2024 To Dec 2024
B27MW	Mechanics, Fields and Forces	Mandatory	1	September	
B57AS	Engineering in Context 1	Mandatory	1	September	
F17XA	Mathematics for Engineers and Scientists 1	Mandatory	1	September	
January Semester – 4 Mandatory Courses					
F17XB	Mathematics for Engineers and Scientists 2	Mandatory	1	January	Jan 2025 To Apr 2025
B57AT	Engineering in Context 2	Mandatory	1	January	
B57AU	Introduction to Mechanical Engineering	Mandatory	1	January	
B27FF	Waves and Matter	Mandatory	1	January	
Direct Entry & Continuing Students					
Year 2					
September Semester – 4 Mandatory Courses					
B58DB	Design and Manufacture 2	Mandatory	2	September	Sept 2024 To Dec 2024
B58FB	Fluid Mechanics A	Mandatory	2	September	
B58SB	Strength of Materials A	Mandatory	2	September	
F18XC	Mathematics for Engineers and Scientists 3	Mandatory	2	September	
January Semester – 4 Mandatory Courses					
B58MB	Dynamics	Mandatory	2	January	Jan 2025 To Apr 2025
B38EI	Electrical Power and Machines	Mandatory	2	January	
B58TB	Thermodynamics A	Mandatory	2	January	
F18XD	Mathematics for Engineers and Scientists 4	Mandatory	2	January	
Year 3					
September Semester – 4 Mandatory Courses					
B49CJ	Sustainable Development and Engineering Management	Mandatory	3	September	Sept 2024 To Dec 2024
B59DE	Design and manufacture 3	Mandatory	3	September	
B59FC	Fluid Mechanics B	Mandatory	3	September	
B59SC	Mechanics of Materials B	Mandatory	3	September	

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January Semester – 4 Mandatory Courses					
B59MC	Vib Analysis & Control Eng	Mandatory	3	January	Jan 2025 To Apr 2025
B59TC	Thermodynamics B	Mandatory	3	January	
B59DF	Design and Manufacture 4	Mandatory	3	January	
B59AC	Automotive Technologies 1	Mandatory	3	January	
Year 4					
September Semester – 3 Mandatory and 1 Optional Course(s)					
B50DG	Engineering Design	Mandatory	4	September	Sept 2024 To Dec 2024
B50EO	Dynamics 1	Mandatory	4	September	
B50PR	Mechanical Engineering Individual Project *	Mandatory	4	September	
B50EM	Advanced Mechanics of Materials 1	Optional	4	September	
B50EK	Incompressible Fluid Dynamics	Optional	4	September	
B50TE	Heat Exchangers and HT	Optional	4	September	
* Note: B50PR is a two-semester course that requires registration in the September Semester.					
January Semester – 3 Mandatory Courses					
B50AD	Automotive Technologies 2	Mandatory	4	January	Jan 2025 To Apr 2025
B50DH	Engineering Manufacture	Mandatory	4	January	
B50EP	Dynamics 2	Mandatory	4	January	