School of Engineering Technology

Department of Mechanical Engineering

Technical Engineer Degree – Mechanical Engineering: 132 Credit Hours

Summary:

Classification	Credit Hours		
	Compulsory	**Elective**	**Total**
University Requirements	20	2	22
School Requirements	17	0	17
HTU Department Requirements	3	8	11
HNC Department Requirements	32	0	32
HND Department Requirements	32	0	32
Placement in Industry Requirements	18	0	18
Total	122	10	**132**

0. English Language Prerequisites:

Depending on the results of the English language Placement Test

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
	Foundation English Pre-Intermediate Intensive + Lab	4	8	1	Placement Test <30

1. University Requirements: 22 Credit Hours (Mandatory: 20, Elective: 2)

1.1. Mandatory: 20 Credit hours

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10301100	Foundation English Intermediate Intensive + Lab	4	8	1	Placement Test 30-42 or 10301099
OR 10301110	Foundation English Intermediate Intensive + Lab				Placement Test 43-58
10301120	English Intermediate + Lab	3	4	1	Placement Test 10301100
OR 10301130	English Upper-Intermediate + Lab	3			Placement Test 59-66 or 10301110 /10301120
10303101	Soft Skills I	2	0	2	-
10303102	Soft Skills II	2	0	2	10301101
10303202	Entrepreneurship Boot Camp	6	3	3	-
	Total	**20**			

1.2. Electives: 2 Credit hours

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10302191	Science & Society Seminar I: Arab Contributions to Science and Arts	1	1	0	-
10303199	Science & Society Seminar II: Philosophy of Science	1	1	0	-
10303196	Art Appreciation and Techniques	1	1	0	-
	Strategies for Industry Competitiveness: Tools & Techniques	1	1	0	10301101
	Rights and responsibilities	1	1	0	
	Civil & Professional Culture	1	1	0	
10303201	Leadership Camp *	1	1	0	10301101
	Total	**2**			

* The course includes a 10-day intensive training boot camp held off-campus.

2. **School Requirements: (17 Credit Hours)**

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
	Functional Math	3	3	0	-
	Functional Physics	3	3	0	-
	Fundamentals of Computing	4	3	1	-
	STEM Lab I	1	0	1	-
	STEM Lab II	1	0	1	-
	Workshop I	2	0	2	Workshop I
	Workshop II	1	0	1	STEM I
	Introduction to Engineering Drawing	1	0	1	
	Advanced workshop	1	0	1	
	Total	**17**			

3. Al-Hussein Technical University (HTU) Department Requirements: 11 Credit Hours

3.1. HTU Mandatory Department Requirements: 3 Credit Hours

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
	Mechanical Lab I	1	0	1	
	Mechanical Engineering Design	2	0	2	
	Total	**3**			

3.2. HTU Elective Department Requirements: 8 Credit Hours

Students should choose 2 elective courses of the following lists depending on the specialization pathway:

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
	Machining and Processing of Engineering Materials	4	3	1	
	Mechatronics	4	3	1	
	Renewable Energy	4	3	1	
	Fluid Mechanics	4	3	1	
	Engineering Management	4	3	1	
	Fundamentals of Thermodynamics and Heat Engines	4	3	1	
	Production Engineering for Manufacture	4	3	1	
	Automation, Robotics and Programmable Logic Controllers	4	3	1	
	Quality and Process Improvement	4	3	1	
	Maintenance Engineering	4	3	1	
	Electrical Machines	4	3	1	
	Electronic Circuits and Devices	4	3	1	

	Computer Aided Design and Manufacture (CAD/CAM)	4	3	1	
	CAD for Maintenance Engineers	4	3	1	
	Operations and Plant Management	4	3	1	
	Electro, Pneumatic and Hydraulic Systems	4	3	1	
	Mechanical Workshop Practices	4	3	1	
	Advanced Mechanical Principles	4	3	1	
	Virtual Engineering	4	3	1	
	Further Mathematics	4	3	1	
	Further Thermodynamics	4	3	1	
	Industrial Systems	4	3	1	
	Manufacturing Systems Engineering	4	3	1	
	Lean manufacturing	4	3	1	
	Advanced Manufacturing Technology	4	3	1	
	Thermofluids	4	3	1	
	Industrial Services	4	3	1	
	Fundamentals of control systems	4	3	1	
	Sustainability	4	3	1	
	Total Taken	**8**			

4. Higher National Certificate (HNC) Department Requirements (24 Credit Hours)

4.1. HNC Mandatory Requirements (24 Credit Hours)

4.1.1. Core Units (16 Credit Hours):

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
	Engineering Math	4	3	1	
	Engineering Design	4	3	1	
	Engineering Science	4	3	1	
	Managing A Professional Engineering Project (Pearson - set)	4	3	1	
	Total	**16**			

4.1.2. Specialist Units (16 Credit Hours):

Students should choose to study one of the following lists depending on the specialization pathway:

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
	Mechanical Principles	4	3	1	

	Fundamentals of Thermodynamics and Heat Engines	4	3	1	
	Materials, Properties and Testing	4	3	1	
	Fluid Mechanics	4	3	1	
	Total	**16**			

5. Higher National Diploma (HND) Requirements (32 Credit Hours):

5.1. HND Mandatory Requirement (32 Credit Hours):

5.1.1 Core Units (12 Credit Hours):

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
	Research Project – Pearson Set	8	6	2	
	Professional Engineering Management (Pearson-set)	4	3	1	
	Total	**12**			

5.1.2 Specialist Units (20 Credit Hours):

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
	Advanced Mechanical Principles	4	3	1	
	Virtual Engineering	4	3	1	
	Further Mathematics	4	3	1	
	Thermofluids	4	3	1	
	Further Machines and Drivers	4	3	1	
	Total	**20**			

6. Placement in Industry Requirements (18 Credit hours)

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
	Practical Training	18	0	40	
	Total	**18**			