

**School of Construction Technology and Built Environment
Department of Civil Engineering**

Intermediate University Degree 2 – Technical Engineer: 132 Credit Hours

Specialization Pathways:

- Structural Engineering
- Construction Engineering
- Infrastructure Engineering

Summary:

Classification	Credit Hours		
	Compulsory	Elective	Total
University Requirements	20	2	22
School Requirements	18	0	18
HTU Department Requirements	10	0	10
HNC Department Requirements	28	4	32
HND Department Requirements	20	12	32
Placement in Industry Requirements	18	0	18
Total =	114	18	132

* Depending on the specialization pathway

0. English Language Prerequisites:

Depending on the results of the English language Placement Test

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
ENGL 99	Foundation English Pre-Intermediate Intensive + Lab	12	9	3	Placement Test 0-29

1. University Requirements: 22 Credit Hours

1.1. Compulsory University Requirements: 20 Credit Hours

Course No.	Course Title	Cr. Hr.	Lecture	Practical	Contact Hours	Prerequisite
10301100	Foundation English Pre-Intermediate Intensive + Lab	4	8	1	10	Placement Test 30-42 or 10301099
OR 10301110	Foundation English Intermediate Intensive + Lab				10	Placement Test 43-58
10301120	English Intermediate + Lab	3	4	1	6	Placement Test 10301100
OR 10301130	English Upper-Intermediate + Lab	3			6	Placement Test 59-66 or 10301110 /10301120
10301101	Soft Skills I	2	0	2	4	-
10301102	Soft Skills II	2	0	2	4	10301101
10303202	Entrepreneurship Boot Camp	6	3	3	12	-
Total		20				

1.2. Elective University Requirements: 2 Credit Hours

Students should choose to study 2 Credit Hours from the following List:

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

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

2. School Requirements: (15 Credit Hours)

Course No.	Course Title	Cr. Hr.	Lecture	Practical	Prerequisite
10303101	Functional Math	3	3	0	-
10303100	Functional Physics	3	3	0	-
10201100	Fundamentals of Computing	4	3	1	-
10303130	STEM Lab I	1	0	1	-
10303131	STEM Lab II	1	0	1	10303130
10101100	Workshop I	2	0	2	-
10101102	Workshop II	1	0	1	10101100
10400120	Construction Workshop	1	0	1	10101112
10401111	Introduction to Construction Information	2	0	2	-
Total		18			

3. Al-Hussein Technical University (HTU) Department Requirements (10 Credit Hours):

4.1. HTU Compulsory Requirements (10 Credit Hours):

* Depending on the specialization pathway:

1) Civil Engineering – 10 Credit Hours:

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10402141	Structural Mechanics	4	3	1	10303100
10402201	Concrete Technology	4	3	1	10402141
10402112	Civil Engineering Drawing	2	0	2	10401111
10402290	Civil Engineering Excursion	0	0	0	
Total		10			

2) Surveying Engineering – 10 Credit Hours:

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10402115	Geographic Information Systems	3	2	1	
10402116	Principles of Geodesy	3	2	1	
10402117	Remote Sensing	2	1	1	
10402113	Principles of Photogrammetry	2	1	1	
10402290	Civil Engineering Excursion	0	0	0	
Total		10			

4. Higher National Certificate (HNC) Department Requirements (32 Credit Hours)

5.1. HNC Compulsory Requirements (Credit Hours)*:

* Depending on the specialization pathway:

4.1.1. Compulsory Core Units (12 Credit Hours):

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10402230	Individual Project (Civil) – Pearson Set	4	2	2	10401121
10401121	Construction Technology	4	3	1	10401111
10400151	Construction Practice & Management	4	3	1	10401111
Total		12			

4.1.2. Compulsory Specialist Units:

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

1) Structural Engineering Specialist Units - 16 Credit Hours:

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10303100	Science & Materials	4	3	1	10303100
10401112	Construction Information (Working Designs)	4	3	1	10401111
10402101	Mathematics for Construction	4	3	1	10303101
10402241	Principles of Structural Design	4	3	1	10402141
Total		16			

2) Infrastructure Engineering Specialist Units - 12 Credit Hours:

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10400251	Legal & Statutory Responsibilities in Construction	4	3	1	Construction Technology
10400102	Measurement & Estimating	4	3	1	Functional Math
10400152	Financial Management & Business Practices in Construction	4	3	1	Structural Mechanics
Total		12			

5.2. HNC Elective Requirements:

* Students should choose to study 4 or 8 Credit Hours from the following list depending on the specialization pathway:

1) Structural Engineering - 4 Credit Hours:

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10402111	Surveying, Measuring & Setting Out	4	3	1	10401111
10400252	Tender & Procurement	4	3	1	10400151
10401221	Principles of Refurbishment	4	3	1	10401121
10409262	Principles of Public Health Engineering	4	3	1	-
10402221	Civil Engineering Technology	4	3	1	10401121
10400253	Site Supervision & Operations	4	3	1	10400151
Total Taken		4			

2) Infrastructure Engineering - 8 Credit Hours:

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10402111	Surveying, Measuring & Setting Out	4	3	1	10401111
10400252	Tender & Procurement	4	3	1	10400151
10401221	Principles of Refurbishment	4	3	1	10401121
10409262	Principles of Public Health Engineering	4	3	1	-
10402221	Civil Engineering Technology	4	3	1	10401121
10400253	Site Supervision & Operations	4	3	1	10400151
Total Taken		8			

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

5.1. HND Compulsory Requirement (20 Credit Hours):

5.1.1 Compulsory Core Units (8 Credit Hours):

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10402330	Group Project (Civil) – Pearson Set	8	4	4	10402230
Total		8			

5.1.2 Compulsory Specialist Units (12 Credit Hours)*:

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

1) Structural Engineering Specialist Units - 12 Credit Hours:

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10402301	Further Mathematics for Construction	4	3	1	10303101
10402361	Geotechnics & Soil Mechanics	4	3	1	10402141
10402341	Advanced Structural Design	4	3	1	10402241
Total		12			

2) *Infrastructure Engineering Specialist Units - 12 Credit Hours:*

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10400351	Contracts & Management	4	3	1	
10400101	Advanced Quantities for Complex Building Projects	4	3	1	
10402114	Surveying for Conservation, Renovation and Refurbishment	4	3	1	
Total		12			

5.2. HND Elective Requirements (12 Credit Hours)*:

* Students should choose to study 12 Credit Hours from the following list depending on the specialization pathway:

1) *Structural Engineering - 12 Credit Hours:*

2) *Infrastructure Engineering - 12 Credit Hours:*

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10401322	Alternative Methods for Construction	4	3	1	10401121
10401312	Advanced Building Information Modelling	4	3	1	10401212
10409362	Environmental Assessment & Monitoring	4	3	1	10303100
10400354	Personal Professional Development	4	3	1	10400151
10409344	Transport Systems in Buildings	4	3	1	10401112
10409361	Alternative Energy Systems Design & Installation	4	3	1	10303100
10402371	Highway Engineering	4	3	1	
10402362	Hydraulics	4	3	1	
10402211	Advanced Surveying & Measurement	4	3	1	10402111
10400351	Maintenance & Operations	4	3	1	10400120
10402302	Advanced Materials	4	3	1	
10400354	Construction Data Management	4	3	1	10400151
Total Taken		12			

5. Placement in Industry Requirements (18 Credit hours)

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10400999	On-Job Training	18	0	40	3 rd year
Total		18			

School of Construction Technology and Built Environment

Department of Civil Engineering

Technical Degree in Civil Engineering

1) Structural Engineering

English Language Prerequisites:

Depending on the results of the English language Placement Test

Course No.	Course Title	Cr. hr.	Prerequisite
	Foundation English Pre-Intermediate Intensive + Lab	12	Placement Test 0-29

Study Plan Guide:

<i>First Year - Fall Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
10301100	Foundation English Intermediate Intensive +Lab	4	Placement Test 30-42
OR 10301110	Foundation English Intermediate Intensive + Lab		Placement Test 43-58
10303100	Functional Physics	3	-
10303130	STEM Lab I	1	-
10301101	Soft Skills I	2	-
10101100	Workshop I	2	-
10201100	Fundamentals of Computing	4	-
10401111	Introduction to Construction Information	2	-
	Elective University Requirement 1	1	-
	Total	19	

<i>First Year - Spring Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
10301120	English Intermediate + Lab	3	Placement Test 43-50 or
OR 10301130	English Upper-Intermediate + Lab		Placement Test 59-66 or 10301110 /10301120
10303101	Functional Math	3	-
HNC	Construction Technology	4	
HNC	Science & Materials	4	
10402141	Structural Mechanics	4	
10101102	Workshop II	1	10101100
	Elective University Requirement 2	1	-
	Total	20	

<i>First Year - Summer Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
HNC	Construction Practice & Management	4	
HNC	Construction Information (Working Designs)	4	
HNC	Mathematics for construction	4	
10400120	Construction Workshop	1	-
	Total	13	

<i>Second Year - Fall Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
10301130	English Upper-Intermediate + Lab	3	Placement Test 59-66 or 10301110 /10301120
10303131	STEM Lab II	1	10303130
HNC	Individual Project – Pearson Set	4	
HNC	Principles of Structural Design	4	
10402201	Concrete Technology	4	
HNC	HNC ELECTIVE (measuring & estimating)	4	
	Total	20	

<i>Second Year - Spring Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
HND	Further Mathematics for Construction	4	
HND	Advanced Structural Design	4	
HND	Geotechnics & Soil Mechanics	4	
HND	HND Elective	4	
HND	HND Elective	4	
	Total	20	

<i>Second Year - Summer Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
10303202	Entrepreneurship Boot Camp	6	
10301102	Soft Skills II	2	
HND	HND Elective	4	
	Total	12	

All Specialization Pathways:

<i>Third Year - Fall and Spring Semesters</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
10400999	On-Job Training	18	
	Total	18	

<i>Third Year - Summer Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
10402112	Civil Engineering Drawing	2	
HND	Group Project (Pearson-set)	8	
10402299	Civil Engineering Excursion	0	
	Total	10	

2) *Infrastructure Engineering*

English Language Prerequisites:

Depending on the results of the English language Placement Test

Course No.	Course Title	Cr. hr.	Prerequisite
	Foundation English Pre-Intermediate Intensive + Lab	12	Placement Test 0-29

Study Plan Guide:

<i>First Year - Fall Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
10301100	Foundation English Intermediate Intensive +Lab	4	Placement Test 30-42
OR 10301110	Foundation English Intermediate Intensive + Lab		Placement Test 43-58
10303100	Functional Physics	3	-
10303130	STEM Lab I	1	-
10301101	Soft Skills I	2	-
10101100	Workshop I	2	-
10201100	Fundamentals of Computing	4	-
10401111	Introduction to Construction Information	2	-
	Elective University Requirement 1	1	-
	Total	19	

<i>First Year - Spring Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
10301120	English Intermediate + Lab	3	Placement Test 43-50 or
OR 10301130	English Upper-Intermediate + Lab		Placement Test 59-66 or 10301110 /10301120
10303101	Functional Math	3	-
HNC	Construction Technology	4	
HNC	Science & Materials	4	
10400102	Measurement & Estimating	4	
10101102	Workshop II	1	
	Total	19	

<i>First Year - Summer Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
HNC	Construction Practice & Management	4	
HNC	Legal & Statutory Responsibilities in Construction	4	
10402117	Remote Sensing	2	
10400120	Construction Workshop	1	-
	Total	11	

<i>Second Year - Fall Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
ENGL 130	English Upper-Intermediate	3	
	Elective University Requirement 1	1	-
10303131	STEM Lab II	1	
HNC	Individual Project – Pearson Set	4	
10400152	Financial Management & Business Practices in Construction	4	
10402115	Principles of Geodesy	3	
HNC	HNC ELECTIVE	4	
	Total	20	

<i>Second Year - Spring Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
HND	Contracts & Management	4	
10400101	Advanced Quantities for Complex Building Projects	4	
10402114	Surveying for Conservation, Renovation and Refurbishment	4	
HND	HND Elective	4	
HND	HND Elective	4	
	Total	20	

<i>Second Year - Summer Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
10301102	Entrepreneurship Boot Camp	6	
10301102	Soft Skills II	2	
HND	HND Elective	4	
	Total	12	

All Specialization Pathways:

<i>Third Year - Fall and Spring Semesters</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
10400999	On-Job Training	18	
	Total	18	

<i>Third Year - Summer Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
HND	Group Project (Pearson-set)	8	
10402115	Geographic Information Systems	3	
10402113	Principles of Photogrammetry	2	
10402290	Civil Engineering Excursion	0	
	Total	13	