



Construction Engineering and Management Program



B.Sc. Program Specification

Bylaw 2017 according to NARS2018

Benha University – Benha Faculty of Engineering

2017

Compulsory Courses

Level	Courses		Pr. Req.	Weekly Contact Hours						Assessment					
	Code	Course Title		Cr. Hrs	Lect.	Lab.	Tut.	Total	Mid 1	Mid 2	PE/OE	St. Act.	Final		
1st Level	Fall Sem.	FRB 101	Mathematics I	....	3	2	0	2	4	30	20	....	10	40
		FRB 103	Mechanics I	....	3	2	0	2	4	30	20	....	10	40
		FRB 105	General Chemistry	....	3	2	2	1	5	30	....	20	10	40
		FRB 107	Physics I	....	3	2	2	2	6	30	....	20	10	40
		FRM 109	Engineering Graphics	....	4	2	0	5	7	30	20	....	10	40
		UHS 101	English language	....	2	2	0	0	2	30	20	....	10	40
	Spring Sem.	FRB 102	Mathematics II	FRB101	3	2	2	2	6	30	....	20	10	40
		FRB 104	Mechanics II	FRB103	3	2	0	2	4	30	20	....	10	40
		FRM 106	Production Engineering	.....	3	2	3	0	5	30	....	20	10	40
		FRB 108	Physics II	FRB107	3	2	2	2	6	30	....	20	10	40
		FRE 110	Computer Programming	....	3	2	3	0	5	30	20	40	10	....
		UHS 102	Social Issues	....	2	2	0	0	2	30	20	....	10	40
2nd Level	Fall Sem.	FRB 201	Mathematics III	FRB102	3	2	0	2	4	30	20	....	10	40
		CMC 201	Structural Analysis-1	FRB104	3	2	0	3	5	30	20	....	10	40
		CMC 203	Properties Engineering Materials	FRB107	3	2	1	2	5	30	....	20	10	40
		CMC 205	Construction Engineering Drawings	FRM109	2	1	0	2	3	30	20	....	10	40
		CMC 207	Surveying for Engineers-1	FRB101	3	2	1	2	5	30	....	20	10	40
		CMC 209	Concrete Technology	.....	2	1	0	2	3	30	20	....	10	40
		UHS 201	Technical writing	.....	2	2	0	0	2	30	20	....	10	40
	Spring Sem.	FRB 202	Mathematics IV	FRB201	3	2	0	2	4	30	20	....	10	40
		CMC 202	Structural Analysis-2	CMC201	3	2	1	2	5	30	....	20	10	40
		CMC 204	Construction Materials	CMC203	3	2	0	2	4	30	20	....	10	40
		CMC 206	CAD for Civil Engineering	CMC205	3	2	2	0	4	30	20	40	10	....
		CMA 208	Basic Architectural Engineering	FRM109	2	1	0	2	3	30	20	....	10	40
		UHS 202	Engineering Economics	2	2	0	0	2	30	20	10	40	
	3rd Level	I S	FRB 301	Numerical Methods	FRB201	3	2	0	2	4	30	20	10	40

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3rd Level	Fall Sem.	CMC301	Hydraulics for Civil Engineer	FRB107	3	2	1	3	6	30	...	20	10	40
		CMC 303	Structural Analysis-3	CMC202	3	2	0	3	5	30	20	...	10	40
		CMC305	Soil Mechanics	CMC204	3	2	0	3	5	30	20	...	10	40
		CMC307	Building Construction & City Planning	CMC204	3	2	0	2	4	30	20	...	10	40
		CMC309	Project Management	.....	2	2	0	0	2	30	20	...	10	40
	Spring Sem.	FRB 302	Probabilities & Statistics	FRB201	3	2	0	2	4	30	20	...	10	40
		CMC302	Water Resources, Irrigation & Drainage	CMC301	3	2	1	3	6	30	...	20	10	40
		CMC 304	Design of R.C. structures-1	CMC202	3	2	0	3	5	30	20	...	10	40
		CMC306	Surveying for engineers-2	CMC207	3	2	0	3	5	30	20	...	10	40
		CMM 308	Technical Installations in Buildings	CMM210	3	2	0	2	4	30	20	...	10	40
		HS3XX	Humanities–Elective1	.....	2	2	0	0	2	30	20	...	10	40
4th Level	Fall Sem.	CMC 401	Design of Metallic Structures-1	CMC202	3	2	0	3	5	30	20	...	10	40
		CMC 403	Environmental & Sanitary Engineering	CMC301	3	2	0	2	4	30	20	...	10	40
		CMC 405	Construction Management	CMC309	2	1	0	2	3	30	20	...	10	40
		CMC 407	Foundation Engineering	CMC305	3	2	0	3	5	30	20	...	10	40
		CMC 409	Design of R.C. Structures2	CMC304	3	2	0	3	5	30	20	...	10	40
		CMC 411	Cost Engineering & Quantity Surveying	.....	2	1	0	2	3	30	20	...	10	40
		UHS 401	Legislation & Engineering Ethics	.....	2	2	0	0	2	30	20	...	10	40
	Spring Sem.	CMC 402	Design of Metallic Structures-2	CMC401	3	2	0	3	5	30	20	...	10	40
		CMC 404	Design of Hydraulic Structures	CMC301	3	2	0	3	5	30	20	...	10	40
		CMC 406	Environmental Engineering	CMC403	3	2	0	3	5	30	20	...	10	40
		CMC 408	Construction Methods	.....	2	1	0	2	3	30	20	...	10	40
		CMC 410	Slope Stability & Retaining Structure	CMC305	2	1	0	2	3	30	20	...	10	40
	Spring Sem.	CMC 412	Highway Engineering	CMC305	3	2	0	2	4	30	20	...	10	40
		HS4XX	Humanities – Elective 2	.....	2	2	0	0	2	30	20	...	10	40
5th Level	Fall Sem.	CMC 501	Concrete and Steel Bridges	CMC409	3	2	0	3	5	30	20	...	10	40
		CMC 503	Dynamics of Structures	CMC202	3	2	0	3	5	30	20	...	10	40

Level	Courses		Pr. Req.	Weekly Contact Hours						Assessment				
	Code	Course Title		Cr. Hrs	Lect.	Lab.	Tut.	Total	Mid 1	Mid 2	PE/OE	St. Act.	Final	
Spring Sem.	CMC5XX	Elective Course-1		3	2	0	3	5	30	20	...	10	40	
	CMC5XX	Elective Course-2		3	2	0	3	5	30	20	...	10	40	
	CMC 509	Project-1	*	3	2	0	3	5	...	...	...	50	50
	HS 5XX	Humanities – Elective 3	.....	2	2	0	0	2	30	20	...	10	40
	CMC 502	Computer Applications in Civil Engineering	FRE110	3	2	3	0	5	30	20	...	10	40	
	CMC 504	Quality Control & Inspection of Structures	CMC202	3	2	0	2	4	30	20	...	10	40	
	CMM 506	Equipment for Construction	.....	2	2	0	1	3	30	20	...	10	40
	CMC5XX	Elective Course-3		3	2	0	3	5	30	20	...	10	40	
	CMC5XX	Elective Course-4		3	2	0	3	5	30	20	...	10	40	
	CMC 512	Project-2	CMC 509	3	0	0	6	6	...	...	...	50	50
HS 5XX	Humanities – Elective 4	.....	2	2	0	0	2	30	20	...	10	40	
FT	CMC/E380	Field Training I	**											
	CMC/E480	Field Training II	***											

* The student can register for the Senior Design Project course after passing 70% of the program cr. hrs,

** Completion of 50 Credit Hours

***Completion of 90 Credit Hours

List of Elective Courses

Level	Courses		Pr. Req.	Weekly Contact Hours					Assessment					
	Code	Course Title		Cr. Hrs	Lect.	Lab.	Tut.	Total	Mid 1	Mid 2	PE/OE	St. Act.		
Elective Course-1	Fifth (Fall Sem.)	CMC505	Building Construction	....	3	2	0	3	5	30	20	....	10	40
		CMC507	Advanced Engineering Materials	CMC202 , CMC204	3	2	0	3	5	30	20	....	10	40
		CMC509	Special Topics in Structural Analysis	CMC202	3	2	0	3	5	30	20	....	10	40
Elective Course-2	Fifth (Fall Sem.)	CMC511	Techniques of Planning, Scheduling and Project Control	CMC309	3	2	0	3	5	30	20	....	10	40
		CMC513	Construction Management-2	CMC405	3	2	0	3	5	30	20	....	10	40
		CMC515	Urban Planning	CMC307	3	2	0	3	5	30	20	....	10	40
Elective Course-3	Fifth (Spring Sem.)	CMC508	Transportation & Logistics	.....	3	2	0	3	5	30	20	....	10	40
		CMC510	Prefabricated Water and Prestressed Concrete Structures	CMC409	3	2	0	3	5	30	20	....	10	40
		CMC512	Analysis and Design of Composite Structures	CMC402	3	2	0	3	5	30	20	....	10	40
Elective Course-4	Fifth (Spring Sem.)	CMC514	Special Topics in Geotechnical Engineering	CMC407	3	2	0	3	5	30	20	....	10	40
		CMC516	Total Quality Management	CMC504	3	2	0	3	5	30	20	....	10	40
		CMC518	Value Engineering in the Construction Industry	.....	3	2	0	3	5	30	20	....	10	40

List of Humanities Elective Courses

Code	Course Title	Weekly Contact Hours					Assessment				
		Cr. Hrs	Lect.	Lab.	Tut.	Total	Mid 1	Mid 2	PE/OE	St. Act	Final
HS302	Human Resource Management	2	2	...	...	2	30	20	...	10	40
HS304	Strategic Management	2	2	...	...	2	30	20	...	10	40
HS306	Computer and Society	2	2	...	...	2	30	20	...	10	40
HS308	Accounting	2	2	...	...	2	30	20	...	10	40
HS402	Foundations of Marketing	2	2	...	...	2	30	20	...	10	40
HS404	Introduction to Finance	2	2	...	...	2	30	20	...	10	40
HS406	Human Computer Interaction	2	2	...	...	2	30	20	...	10	40
HS408	Sustainable Development	2	2	...	...	2	30	20	...	10	40
HS501	Specifications and feasibility studies	2	2	...	...	2	30	20	...	10	40
HS503	Analytical Skills and Critical Thinking	2	2	...	...	2	30	20	...	10	40
HS505	Communication Laws and Codes	2	2	...	...	2	30	20	...	10	40
HS507	Construction Contracts and Law	2	2	...	...	2	30	20	...	10	40
HS502	Professional Communication Skills	2	2	...	...	2	30	20	...	10	40
HS504	Principles of industrial health	2	2	...	...	2	30	20	...	10	40
HS506	Social Risks and Security of Computer Systems	2	2	...	...	2	30	20	...	10	40
HS508	Risk Management	2	2	...	...	2	30	20	...	10	40

