

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)

Syllabus for B. Tech in Civil Engineering
(Applicable from the academic session 2018-2019)

Curriculum Structure
Semester III (Second year)

Sl. No.	Category	Code	Course Title	Hours per week			Credits
				L	T	P	
Theory							
1	Basic Science courses	CE(BS)301	Biology for Engineers	2	1	0	3
2	Engineering Science Courses	CE(ES)301	Engineering Mechanics	3	1	0	4
3	Engineering Science Courses	CE(ES)302	Energy Science & Engineering	1	1	0	2
4	Basic Science courses	CE(BS)302	Mathematics-III (Transform & Discrete Mathematics)	2	0	0	2
5	Humanities and Social Sciences including Management courses	CE(HS)301	Humanities-I (Effective Technical Communication)	3	0	0	3
6	Humanities and Social Sciences including Management courses	CE(HS)302	Introduction to Civil Engineering	1	1	0	2
Theory credits							16
Practical/ Sessional							
1	Engineering Science Courses	CE(ES)391	Basic Electronics	1	0	2	2
2	Engineering Science Courses	CE(ES)392	Computer-aided Civil Engineering Drawing	1	0	2	2
3	Engineering Science Courses	CE(ES)393	Life Science	1	0	2	2
Practical credits							6
Total credits							22

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Semester IV (Second year)

Sl. No.	Category	Code	Course Title	Hours per week			Credits
				L	T	P	
Theory							
1	Engineering Science Courses	CE(ES)401	Mechanical Engineering	2	1	0	3
2	Professional Core courses	CE(PC)401	Instrumentation & Sensor Technologies for Civil Engineering Applications	1	1	0	2
3	Professional Core courses	CE(PC)403	Introduction to Fluid Mechanics	2	0	0	2
4	Professional Core courses	CE(PC)404	Introduction to Solid Mechanics	2	0	0	2
5	Professional Core courses	CE(PC)405	Surveying & Geomatics	1	1	0	2
6	Professional Core courses	CE(PC)406	Materials, Testing & Evaluation	1	1	0	2
7	Humanities and Social Sciences including Management courses	CE(HS)401	Civil Engineering - Societal & Global Impact	2	0	0	2
8	Mandatory Courses (non-credit)	CE(MC)401	Management I (Organizational Behavior)	3	0	0	0
Theory credits							15
Practical/ Sessional							
1	Professional Core courses	CE(PC)491	Instrumentation & Sensor Technologies for Civil Engineering Applications	0	0	2	1
2	Professional Core courses	CE(PC)492	Engineering Geology	1	0	2	2
3	Professional Core courses	CE(PC)493	Introduction to Fluid Mechanics	0	0	2	1
4	Professional Core courses	CE(PC)494	Surveying & Geomatics	0	0	2	1
5	Professional Core courses	CE(PC)495	Materials, Testing & Evaluation	0	0	2	1
Practical credits							6
Total credits							21

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Semester V (Third year)

Sl. No.	Category	Code	Course Title	Hours per week			Credits
				L	T	P	
Theory							
1	Professional Core courses	CE(PC)501	Mechanics of Materials	3	0	0	3
2	Professional Core courses	CE(PC)502	Hydraulic Engineering	2	0	0	2
3	Professional Core courses	CE(PC)503	Structural Engineering	3	1	0	4
4	Professional Core courses	CE(PC)504	Geotechnical Engineering	2	1	0	3
5	Professional Core courses	CE(PC)505	Environmental Engineering	2	1	0	3
6	Professional Core courses	CE(PC)506	Transportation Engineering	2	0	0	2
7	Mandatory courses (non-credit)	CE(MC)501	Constitution of India/ Essence of Indian Knowledge Tradition	-	-	-	0
Theory credits							17
Practical/ Sessional							
1	Professional core courses	CE(PC)591	Hydraulic Engineering	0	0	2	1
2	Professional core courses	CE(PC)592	Structural Engineering	0	0	2	1
3	Professional core courses	CE(PC)593	Geotechnical Engineering	0	0	2	1
4	Professional core courses	CE(PC)594	Environmental Engineering	0	0	2	1
5	Professional core courses	CE(PC)595	Transportation Engineering	0	0	2	1
Practical credits							5
Total credits							22

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Semester VI (Third year)

Sl. No.	Category	Code	Course Title	Hours per week			Credits
				L	T	P	
Theory							
1	Professional Core courses	CE(PC)601	Construction Engineering & Management	2	1	0	3
2	Professional Core courses	CE(PC)602	Engineering Economics, Estimation & Costing	2	1	0	3
3	Professional Elective courses	CE(PE)601	Elective-I	2	0	0	2
4	Professional Elective courses	CE(PE)602	Elective-II	2	0	0	2
5	Open Elective courses	CE(OE)601	Open Elective-I (Humanities)	1	1	0	2
6	Professional Elective courses	CE(PE)603	Elective-III	2	1	0	3
7	Professional Elective courses	CE(PE)604	Elective-IV	2	0	0	2
Theory credits							17
Practical/ Sessional							
1	Professional Core courses	CE(PC)691	Engineering Economics, Estimation & Costing	0	0	4	2
Practical credits							2
Total credits							19

CE(PE)601(Elective-I)	CE(PE)602(Elective-II)
601A : Geometric Design of Highways 601B : Transport of Water and Wastewater 601C: Structural Analysis-I 601D: Foundation Engineering	602A : Pavement Design 602B : Air and Noise Pollution and Control 602C: Structural Analysis-II 602D: Soil Mechanics-II
CE(PE)603(Elective-III)	CE(PE)604(Elective-IV)
603A: Concrete Technology 603B: Soil Mechanics-I 603C: Solid and Hazardous Waste Management 603D: Geographic Information Systems and Science	604A: Pavement Materials 604B: Design of Concrete Structures-I 604C: Environmental Impact Assessment and Life Cycle Analyses

CE(OE)601 (Open Elective-I)

- A: Soft Skills and Interpersonal Communication
B: Introduction to Philosophical Thoughts

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Semester VII (Fourth year)

Sl. No.	Category	Code	Course Title	Hours per week			Credits
				L	T	P	
Theory							
1	Professional Core courses	CE(PC)701	Hydrology & Water Resources Engineering	2	1	0	3
2	Professional Core courses	CE(PC)702	Disaster Preparedness & Planning	1	1	0	2
3	Professional Elective courses	CE(PE)701	Elective V	2	1	0	3
4	Professional Elective courses	CE(PE)702	Elective-VI	2	1	0	3
5	Open Elective courses	CE(OE)701	Open Elective-II (Metro Systems & Engineering) See Annexure-I	3	0	0	3
Theory credits							14
Practical/ Sessional							
1	Project	CE(PROJ)791	Project-1 (Project work, seminar and internship in industry or at appropriate work place)	0	0	12	6
Practical credits							6
Total credits							20

CE(PE)701 (Elective-V)	CE(PE)702 (Elective-VI)
701A: Airport Planning and Design	702A : Intelligent Transportation Systems
701B: Design of Steel Structures	702B : Water and Air Quality Modelling
701C: Groundwater Engineering	702C : Earthquake Engineering
701D: Ground Improvement Techniques	702D: Prestressed Concrete
701E: Ecological Engineering	

CE(OE)701 (Open Elective-II)
A: Metro Systems & Engineering
B: ICT for Development

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Semester VIII (Fourth year)

Sl. No.	Category	Code	Course Title	Hours per week			Credits
				L	T	P	
Theory							
1	Humanities and Social Sciences including Management courses	CE(HS)801	Professional Practice, Law & Ethics	2	0	0	2
2	Professional Elective Courses	CE(PE)801	Elective VII	2	1	0	3
3	Professional Elective	CE(PE)802	Elective VIII	2	0	0	2
4	Open Elective courses	CE(OE)801	Open Elective-III	3	0	0	3
5	Open Elective courses	CE(OE)802	Open Elective-IV	2	0	0	2
Theory credits							12
Practical/ Sessional							
1	Project	CE(PROJ)891	Project-2 (Project work, seminar and internship in industry or at appropriate work place)	0	0	12	6
Practical credits							6
Total credits							18

CE(PE)801 (Elective-VII)	CE(PE)802 (Elective-VIII)
801A : Structural Dynamics 801B: Contracts Management 801C: Traffic Engineering and Management 801D: Rock Mechanics 801E: Physico-Chemical Processes for water and wastewater treatment.	802A : Reliability Analysis of Structures 802B: Railway Engineering. 802C: Environmental Laws and Policy 802D: Environmental Geotechnology

CE(OE)801 (Open Elective-III)	CE(OE)802 (Open Elective-IV)
A: Human Resource Development and Organizational Behavior B: History of Science & Engineering	A: Economic Policies in India B: Cyber Law and Ethics

TOTAL CREDITS – [38 +(22+21)+(22+19)+(20+18)]=160