ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES, TIRUPATI
(Autonomous)
Course structure for Four Year Regular B.Tech. Degree Program
(Effective for the batches admitted from 2020-21)
CIVIL ENGINEERING (CE)

INDUCTION PROGRAM (3 weeks duration)

- Physical activity
- Creative Arts
- Universal Human Values
- Literary
- Proficiency Modules
- Lectures by Eminent People
- Visits to local Areas
- Familiarization to Dept./Branch & Innovations

Semester I (First year)

Sl. No.	Category	Course Code	Course Title	Hours per week			Credits	Schemeof Examination (Max. Marks)		
				L	T	P	C	CIE	SEE	Total
1	Basic Science course	20ABS9901	Algebra and Calculus	3	0	0	3	30	70	100
2	Basic Science course	20ABS9905	Engineering Chemistry	3	0	0	3	30	70	100
3	Humanities and Social science	20AHS9901	Communicative English	3	0	0	3	30	70	100
4	*Engineering Science Courses	20AES0304	Engineering Workshop Practice	1	0	4	3	30	70	100
5	Engineering Science Courses	20AES0501	Problem Solving and Programming	3	0	0	3	30	70	100
6	Humanities and Social science LAB	20AHS9902	Communicative English Lab	0	0	3	1.5	30	70	100
7	Basic Science course (LAB)	20ABS9910	Engineering Chemistry Lab	0	0	3	1.5	30	70	100
8	Engineering Science Courses (LAB)	20AES0503	Problem Solving and Programming Lab	0	0	3	1.5	30	70	100
Total credits							**19.5**	**240**	**560**	**800**

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES, TIRUPATI
(Autonomous)
Course structure for Four Year Regular B.Tech. Degree Program
(Effective for the batches admitted from 2020-21)
CIVIL ENGINEERING (CE)

Semester II (First year)

Sl. No.	Category	Course Code	Course Title	Hours per week			Credits	Schemeof Examination (Max. Marks)		
				L	T	P	C	CIE	SEE	Total
1	Basic Science courses	20ABS9906	Differential Equations and Vector Calculus	3	0	0	3	30	70	100
2	Basic Science courses	20ABS9903	Engineering Physics	3	0	0	3	30	70	100
3	Engineering Science Courses	20AES0202	Basics of Electrical and Electronics Engineering	3	0	0	3	30	70	100
4	Engineering Science Courses	20AES0509	Basics of Python Programming	3	0	0	3	30	70	100
5	Engineering Science Courses	20AES0301	Engineering Graphics	1	0	4	3	30	70	100
6	Engineering Science Courses (LAB)	20AES0204	Basics of Electrical and Electronics Engineering Lab	0	0	3	1.5	30	70	100
7	Basic Science course (LAB)	20ABS9908	Engineering Physics Lab	0	0	3	1.5	30	70	100
8	Engineering Science Courses (LAB)	20AES0510	Basics of Python Programming Lab	0	0	3	1.5	30	70	100
9	Mandatory course (AICTE suggested)	20AMC9902	Constitution of India	2	0	0	0	30	-	30
Total credits							**19.5**	**270**	**560**	**830**

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES, TIRUPATI
(Autonomous)
Course structure for Four Year Regular B.Tech. Degree Program
(Effective for the batches admitted from 2020-21)
CIVIL ENGINEERING (CE)

Semester III (Second year)

Sl. No.	Category	Course Code	Course Title	Hours per week			Credits	Schemeof Examination (Max. Marks)		
				L	T	P	C	CIE	SEE	Total
1	Basic Science courses	20ABS9913	Probability & Statistics, Partial differential equations	3	0	0	3	30	70	100
2	Professional core course	20APC0101	Mechanics of Materials	3	0	0	3	30	70	100
3	Professional core course	20APC0102	Surveying	3	0	0	3	30	70	100
4	Professional core course	20APC0103	Fluid Mechanics	3	0	0	3	30	70	100
5	Humanities and social science	20AHSMB01	Managerial Economics and Financial Analysis	3	0	0	3	30	70	100
6	Professional core courses (LAB)	20APC0104	Strength of Materials Lab	0	0	3	1.5	30	70	100
7	Professional core courses (LAB)	20APC0105	Surveying Lab	0	0	3	1.5	30	70	100
8	Professional core courses (LAB)	20APC0106	Fluid Mechanics Lab	0	0	3	1.5	30	70	100
9	**Skill Oriented Course***	20APC0107	Basics of CAD	1	0	2	2	100	-	100
10	Mandatory course (AICTE suggested)	20AMC9903	Environmental Studies	2	0	0	0	30	-	30
Total credits							**21.5**	**370**	**560**	**930**

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES, TIRUPATI
(Autonomous)
Course structure for Four Year Regular B.Tech. Degree Program
(Effective for the batches admitted from 2020-21)
CIVIL ENGINEERING (CE)

Semester IV (Second year)

Sl. No.	Category	Course Code	Course Title	Hours per week			Credits	Schemeof Examination (Max. Marks)		
				L	T	P	C	CIE	SEE	Total
1	Basic Science courses	20ABS9922	Mathematical Modelling and optimization techniques	3	0	0	3	30	70	100
2	Professional core course	20APC0108	Strength of Materials	3	0	0	3	30	70	100
3	Professional core course	20APC0109	Hydraulic Engineering	3	0	0	3	30	70	100
4	Professional core course	20APC0110	Structural Analysis-I	3	0	0	3	30	70	100
5	Professional core course	20APC0111	Concrete Technology	3	0	0	3	30	70	100
6	Humanity Science Courses	20AHS9905	Universal Human Values	3	1	0	3	30	70	100
7	Professional core courses (LAB)	20APC0112	Hydraulic Machinery Lab	0	0	3	1.5	30	70	100
8	Professional core courses (LAB)	20APC0113	Concrete Technology Lab	0	0	3	1.5	30	70	100
9	Professional core courses (LAB)	20APC0114	Computer-aided Civil Engineering Drawing Lab	0	0	3	1.5	30	70	100
10	**Skill Oriented Course***	20APC0115	Land survey with 2D drafting /Soft skills	1	0	2	2	100	-	100
Total credits							**24.5**	**370**	**630**	**1000**
Community service Project with credits (To visit the selected community to conduct survey (Socio-economic & domain survey) and conduct sensitization/awareness program/activities at the end of IV- semester before commencement of V-semester and complete immersion programme also during V-Semester and submit report in V - semester. Assessment will be done at the end of V-Semester).										
Honors/ Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)				**4**	**0**	**0**	**4**	**30**	**70**	**100**

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES, TIRUPATI
(Autonomous)
Course structure for Four Year Regular B.Tech. Degree Program
(Effective for the batches admitted from 2020-21)
CIVIL ENGINEERING (CE)

Semester V (third year)

Sl. No.	Category	Course Code	Course Title	Hours per week			Credits	Schemeof Examination (Max. Marks)		
				L	T	P	C	CIE	SEE	Total
1	Professional core course	20APC0116	Soil Mechanics	3	0	0	3	30	70	100
2	Professional core course	20APC0117	Building Technology	3	0	0	3	30	70	100
3	Professional core course	20APC0118	Engineering Geology	3	0	0	3	30	70	100
4	Open Elective course / Job Oriented Elective	20APE0417	Sensor Networks	3	0	0	3	30	70	100
		20APC0323	Operations Research							
		20AOE0301	Management Science							
5	Professional Elective courses	20APE0101	Structural Analysis-II	3	0	0	3	30	70	100
		20APE0102	Water Harvesting and Conservation							
		20APE0103	Cost Effective Housing Techniques							
6	Professional core courses (LAB)	20APC0119	Soil Mechanics Lab	0	0	3	1.5	30	70	100
7	Professional core courses (LAB)	20APC0120	Engineering Geology Lab	0	0	3	1.5	30	70	100
8	**Skill Oriented Course***	20APC0121	Building planning & Drawing Lab	1	0	2	2	100	-	100
9	Mandatory course (AICTE suggested)	20AMC9904	Professional Ethics and Human Values	2	0	0	0	30	-	30
10	**CSP**	20CSP0101	**Community service project**	0	0	0	1.5	100	-	100
Total credits							**21.5**	**440**	**490**	**930**
Honors/ Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)				**4**	**0**	**0**	**4**	**30**	**70**	**100**

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES, TIRUPATI
(Autonomous)
Course structure for Four Year Regular B.Tech. Degree Program
(Effective for the batches admitted from 2020-21)
CIVIL ENGINEERING (CE)

Semester VI (third year)

Sl. No.	Category	Course Code	Course Title	Hours per week			Credits	Schemeof Examination (Max. Marks)		
				L	T	P	C	CIE	SEE	Total
1	Professional core course	20APC0122	Environmental Engineering	3	0	0	3	30	70	100
2	Professional core course	20APC0123	Highway Engineering	3	0	0	3	30	70	100
3	Professional core course	20APC0124	Foundation Engineering	3	0	0	3	30	70	100
4	Open Elective course / Job Oriented Elective	OEC	Basic research Research in technical education Research Ethics and Plagiarism Personality development Entrepreneurship development	3	0	0	3	-	-	100
5	Professional Elective courses	20APE0104	Design and Drawing of Reinforced concrete Structures	3	0	0	3	30	70	100
		20APE0105	Intelligent Transport System							
		20APE0106	Remote Sensing and GIS							
6	Professional core courses (LAB)	20APC0125	STAAD Lab	0	0	3	1.5	30	70	100
7	Professional core courses (LAB)	20APC0126	Environmental Engineering lab	0	0	3	1.5	30	70	100
8	Professional core courses (LAB)	20APC0127	Highway Engineering Lab	0	0	3	1.5	30	70	100
9	**Skill Oriented Course***	20AHE9902	Principles of effective public speaking	1	0	2	2	100	-	100
10	Mandatory course (AICTE suggested)	20AMC9901	Biology for Engineers	2	0	0	0	30	-	30
	Total credits						**21.5**	**340**	**490**	**930**
	Honors/ Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)			**4**	**0**	**0**	**4**	**30**	**70**	**100**
	Industrial/ Research Internship (Mandatory) 2 Months during summer vacation									

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES, TIRUPATI
(Autonomous)
Course structure for Four Year Regular B.Tech. Degree Program
(Effective for the batches admitted from 2020-21)
CIVIL ENGINEERING (CE)

Semester VII (Fourth year)

Sl. No.	Category	Course Code	Course Title	Hours per week			Credits	Schemeof Examination (Max. Marks)		
				L	T	P	C	CIE	SEE	Total
1	Professional Elective courses	20APE0107	Estimation Costing & Valuation	3	0	0	3	30	70	100
		20APE0108	Environmental Impact Assessment and management							
		20APE0109	Engineering Materials for Sustainability							
2	Professional Elective courses	20APE0110	Hydrology and Water Resources Engineering	3	0	0	3	30	70	100
		20APE0111	Advanced Structural Design							
		20APE0112	Civil Infrastructure for Smart City Development							
3	Professional Elective courses	20APE0113	Design and Drawing of steel Structures	3	0	0	3	-	-	100
		20APE0114	Railways airport Docks and Harbours							
		20APE0115	Elements of Earth Quake Engineering							
4	Open Elective course / Job Oriented Elective	20APC0510	Computer Networks	3	0	0	3	30	70	100
		20AOE0402	Bio Medical Instrumentation							
		20APE0119	Intellectual Property Rights							
5	Professional Elective courses	20APE0116	Pre-stressed Concrete	3	0	0	3	30	70	100
		20APE0117	Ground Improvement Techniques							
		20APE0118	Repair and Rehabilitation of Structures							
6	**Humanities & Social Science Elective***	20AOE9901	English For Research Paper Writing	3	0	0	3	30	70	100
		20AHE9903	Professional Communication							
7	**Skill Advanced Course***	20APC0129	Basics of Quantity surveying	1	0	2	2	100	-	100
	Industrial/ Research Internship 2 months (Mandatory) after Third Year (to be evaluated during VII semester			0	0	0	3	100	-	100
	Total credits						**23**	**350**	**350**	**800**
	Honors/ Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)			**4**	**0**	**0**	**4**	**30**	**70**	**100**

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES, TIRUPATI
(Autonomous)
Course structure for Four Year Regular B.Tech. Degree Program
(Effective for the batches admitted from 2020-21)
CIVIL ENGINEERING (CE)

Semester VIII (Fourth year)

Sl. No.	Category	Course Code	Course Title	Hours per week			Credits	Schemeof Examination (Max. Marks)		
				L	T	P	C	CIE	SEE	Total
1	Major Project	PROJ	Project Work, Seminar & Internship in Industry	0	0	0	12	60	140	200
	Internship (6 Months)									
	Total credits						12	60	140	200