

# ADITYA ENGINEERING COLLEGE

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Aditya Nagar, ADB Road, Surampalem - 533437, Near Kakinada, E.G.Dt., Ph:99498 76662

Program Name : B.Tech. in Civil Engineering

## Syllabus Revision for the Academic Year 2020-2021


S.No	Semester	Course Code	Course Name	% of content revised for the existing year
1	I	201HS1T01	Communicative English	10
2	I	201BS1T01	Differential equations and Linear algebra	0
3	I	201BS1T02	Engineering Physics	0
4	I	201ES1T01	Building Materials & Construction	0
5	I	201ES1T05	Engineering Graphics	55
6	I	201HS1L01	Communicative English Lab	0
7	I	201BS1L01	Engineering Physics Lab	0
8	I	201ES1L01	Engineering Workshop	0
9	I	201MC1T01	Environmental Science	0
10	II	201BS2T05	Partial Differential Equations and Vector Calculus	0
11	II	201BS2T08	Chemistry of Materials	0
12	II	201ES2T06	Engineering Mechanics	0
13	II	201ES2T08	Programming for Problem Solving Using C	0
14	II	201ES2T12	Surveying	0
15	II	201ES2L05	Surveying field Work	0
16	II	201BS2L05	Engineering Chemistry Lab	0
17	II	201ES2L10	Programming for Problem Solving Using C	0
18	II	201MC2L01	Professional Communications skills Lab	0
19	II	201MC2T02	Constitution of India	0
20	III	191BS3T11	Integral transforms and applications of Partial Differential Equations	40
21	III	191ES3T10	Internet of things (IOT)	100
22	III	191HS3T02	Managerial economics and Financial analysis	
23	III	191CE3T01	Strength of materials – I	

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24	III	191CE3T02	Fluid mechanics	0
25	III	191CE3T03	Surveying	0
26	III	191CE3L01	Surveying lab	0
27	III	191CE3T04	Computer aided civil engineering drawing	100
28	III	191CE3L02	Strength of materials lab	0
29	III	191MC3A03	Employability Skills – I	0
30	III	191MC3A04	Essence of Indian Traditional Knowledge	100
31	IV	191BS4T16	Numerical methods & Statistical Techniques (CE, ME, Ag. E)	50
32	IV	191HS4T03	Management science	0
33	IV	191CE4T05	Structural analysis	17
34	IV	191CE4T06	Construction materials and concrete technology	17
35	IV	191CE4T07	Strength of materials – II	0
36	IV	191CE4T08	Hydraulics and hydraulic machinery	0
37	IV	191CE4L03	Fluid mechanics & hydraulic Machinery lab	0
38	IV	191CE4L04	Construction materials and concrete technology lab	0
39	IV	191MC4A05	Employability Skills – II	0
40	IV	191MC4A06	Biology for Engineers	100
41	V	171HS5T05	Management Science	0
42	V	171CE5T10	Design and Drawing of Reinforced Concrete Structures	0
43	V	171CE5T11	Transportation Engineering	0
44	V	171CE5T12	Structural Analysis - II	0
45	V	171CE5T13	Water Resource Engineering - I	0
46	V	171CE5E01	(PE I) Construction Technology and Management	0
47	V	171CE5E02	Urban Hydrology	0
48	V	171CE5E03	Traffic Engineering	0
49	V	171HS5T06	Employability Skills - III	0
50	V	171CE5L04	Engineering Geology Lab	0
51	V	171CE5L05	Transportation Engineering Lab	0
52	V	171CE5S01	MOOCs – I	0
53	V	171CE5P03	Surveying Camp	0
54	VI	171CE6T14	Design and Drawing of Steel Structures	0

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55	VI	171CE6T15	Geotechnical Engineering - I	0
56	VI	171CE6T16	Water Resource Engineering - II	0
57	VI	171CE6T17	Prestressed Concrete	0
58	VI	171CE6E04	PE II Ground Water Development	0
59	VI	171CE6E05	Pavement Analysis and Design	0
60	VI	171CE6E06	Repair and Rehabilitation of Structures	0
61	VI	171CE6E07	PE III Ground Improvement Techniques	0
62	VI	171CE6E08	Finite Element Methods	0
63	VI	171CE6E09	Earthquake Resistant Design	0
64	VI	171HS6T07	Employability Skills - IV	0
65	VI	171CE6L06	Geotechnical Engineering Lab	0
66	VI	171CE6L07	Irrigation Design and Drawing	0
67	VI	171CE6S02	MOOCs - II	0
68	VII	171CE7T18	Geotechnical Engineering - II	0
69	VII	171CE7T19	Environmental Engineering	0
70	VII	171CE7T20	Remote Sensing and GIS Applications	0
71	VII	171CE7T21	Estimation, Specifications and Contracts	0
72	VII	171CE7E10	PE IV Advanced Structural Engineering	0
73	VII	171CE7E11	Watershed Management	100
74	VII	171CE7E12	Design of Tall Buildings	100
75	VII	171CE7E13	PE V Bridge Engineering	0
76	VII	171CE7E14	Environmental Impact Assessment and Management	0
77	VII	171CE7E15	Water Resources Systems Planning	0
78	VII	171CE7L08	Environmental Engineering Lab	0
79	VII	171CE7L09	GIS And Computer Aided Design (CAD) Lab	0
80	VII	171CE7P01	Industry Oriented (Internship) Minor Project	0
81	VIII	171CE8E16	PE VI Urban Transportation Planning Engineering	0
82	VIII	171CE8E17	Soil Dynamics and Foundations	0
83	VIII	171CE8E18	Solid And Hazardous Waste Management	0
84	VIII	171CE8E19	Air Pollution and Control	0
85	VIII	171CE8O01	OE Electronic Instrumentation	0

  
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86	VIII	171CE8O02	Database Management Systems	0
87	VIII	171CE8O03	Alternative Energy Sources	0
88	VIII	171CE8O04	Waste Water Management	0
89	VIII	171CE8O05	Fundamentals of Liquefied Natural Gas	0
90	VIII	171CE8O06	Green Fuel Technologies	0
91	VIII	171CE8O07	Green Engineering Systems	100
92	VIII	171CE8P02	Major Project	0

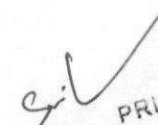
Total number of courses in the academic year 2020-2021	= 92
Number of courses having revision in syllabus content $\geq 20\%$ in the academic year 2020-2021	= 10
Percentage of syllabus revision carried out in the academic year 2020-2021 = $(10/92) \times 100$	= 10.86 %



Program Coordinator

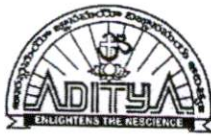


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## Department of Civil Engineering

Date: 10-10-2020

### Minutes of the VI meeting of BOS scheduled on 10-10-2020

The VI meeting of the BOS of Civil Engineering was held virtually on 10-10-2020 from 09:30 AM via Microsoft teams. Mr. P.Ravi Kishore, chairman presided over the meeting. The following points were discussed and recommended by the BOS members for approval by the Academic Council.

#### **Agenda 6.1: Welcome address by Chairperson**

Mr. P. Ravi Kishore, Chairperson of BOS, invited all the distinguished members of BOS to the VI BOS meeting.

#### **Agenda 6.2: Ratification of minutes of the previous Board of Studies meeting.**

- Discussed regarding the minutes of the previous board of studies meeting and the members have ratified the same.

#### **Agenda 6.3: Discussion and ratification of the Vision and Mission of the department and Program Educational Objectives (PEOs), Program Outcomes (POs) and Program Specific Outcomes (PSOs) of the Programs under the Department.**

- Members of BOS ratified the Vision and Mission of the department, PEOs, POs and PSOs of the Programs under the Department.

#### **Agenda 6.4: Discussion on proposed AR19 B.Tech (CE) IV and V semester and AR19 M.Tech (Structural Engineering) syllabus and finalisation of the same.**

- BOS members approved and ratified AR19 M.Tech (Structural Engineering) III and IV Semester syllabus. After detailed discussions with the BOS members on the AR19 B.Tech (CE) IV semester & V semester syllabus, the following suggestions are made for ratification

##### IV Semester:

- Construction Materials and Concrete Technology
  - Latest patterns in Concrete Technology to be included like, importance of blended concrete, nano-concrete
  - Testing procedures should be incorporated with ACT, water penetrating and chloride penetrating tests
- Strength of Materials - II
  - In textbooks S. Ramamrutham to be included
- Hydraulics and Hydraulic Machinery
  - In textbooks latest editions with publications years to be included

##### V Semester:

- Design and Drawing of Reinforced Concrete Structures
  - In textbooks N.Subrahmanyam to be removed and AK Jain and Devdas Pillai to be included

  
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- In reference books include textbook authored by Krishna raj, Thayal & Goel and N. Subrahmanyam
- Geotechnical Engineering Lab
  - BC Punmia book to be added in reference books
- Professional Elective - I
  - Constructional Technology and Management
    - Legal requirements to be taken in consideration
    - Quality management system to be included
    - Environmental health and safety to be included
  - Airport planning and design
    - Safety measures in airport to be included
    - Tabletop airports (Cochin) also to be included
  - Urban Hydrology
    - Surface water run-off management to be included
    - Ground water recharge to be included
  - Environmental pollution and control
    - Industrial bi-product management to be included
    - Safety measures related to employees exposure to illumination in industries to be included

**Agenda 6.5: Discussion on proposed AR20 B.Tech (CE) First Year Program structure and ratification of the same.**

- The members of BOS ratified the AR20 B.Tech(CE) First Year Program structure.

**Agenda 6.6: Discussion on proposed AR20 B.Tech (CE) Program – I & II semesters syllabus and ratification of the same.**

- The members of BOS ratified the AR20 B.Tech(CE) Program – I & II Semesters Syllabus.

**Agenda 6.7: Discussion on proposed AR 19 M.Tech (Structural Engineering) Program – III & IV semesters syllabus and ratification of the same.**

- The members of BOS ratified the AR 19 M.Tech (Structural Engineering) Program – III & IV semesters syllabus.

**Agenda 6.8: Discussion on the courses having focus on employability/ entrepreneurship/ skill development in the programmes of B.Tech (CE) and M.Tech (Structural Engineering) and ratification of the same.**

- The members of BOS ratified the courses having focus on employability/entrepreneurship/skill development in the AR20 B.Tech (CE) program.

  
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**Agenda 6.9: Discussion on the new courses offered in the B.Tech (CE) and M.Tech (Structural Engineering) programmes and ratification of the same**

Members of BOS noted the new courses offered in the B.Tech (CE) and M.Tech (Structural Engineering) programs and ratified the same. The percentage of new courses introduced in the academic year 2020-21 for B. Tech (CE) is 7.61% and M. Tech (Structural Engineering) is 11.90%. The list of new courses during the academic year 2020-2021 enclosed as Annexure-I.

**Agenda 6.10: Discussion on the B.Tech (CE) and M.Tech (Structural Engineering) programs in which Choice Based Credit System(CBCS)/elective course system is being implemented and ratification of the same.**

Members of BOS ratified the Choice Based Credit System (CBCS)/elective course system that is being implemented in B.Tech (CE) and M.Tech (Structural Engineering) programs and ratified the same.

**Agenda 6.11: Discussion on the value-added courses offered for students and ratification of the same.**

Members of BOS ratified the various value- added courses identified for the students to be offered and suggested to include topics related to thrust areas.

**Agenda 6.12: Discussion on the percentage of syllabus revision done in the B.Tech (CE) and M.Tech (Structural Engineering) programs and ratification of the same.**

- The syllabus revisions were done in B. Tech (CE) and M. Tech (Structural Engineering) based on the stakeholders' feedback on Curriculum. The BOS members have approved all the syllabus revisions in B. Tech (CE) and M. Tech (Structural Engineering). The percentage of courses revised in the academic year 2020-21 for B.Tech (CE) is 10.86 % and M.Tech(Structural Engineering) is 48.08%. The list of courses revised is enclosed as Annexure-II.

**Agenda 6.13: Discussion on Analysis of Results.**

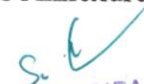
- The BOS Chairperson presented the even and odd semesters pass percentage of the A.Y. 2019-2020. The BOS members noted the same and appreciated the faculty for obtaining 89% in V semester.

**Agenda 6.14: Analysis of student feedback & action taken report**

- BOS Chairperson expressed that the student feedback & action taken report process was initiated at end of each semester. BOS members noted the same.

**Agenda 6.15: Analysis of the feedback on curriculum from stakeholders**

- The BOS Chairperson presented the analysis report of stakeholders' feedback on Curriculum. The BOS members noted the same and advised to incorporate the suggestions as per the feasibility. The Action Taken Report is enclosed as Annexure-III.

  
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**Agenda 6.16: Any other item with the approval of Chairperson.**

- Suggested to mention that a minimum of one week duration for Survey Camp as Special note.
- Suggested to release the list of MOOC courses in advance by college.
- Suggested to include/highlight the contents that are to be delivered by industry experts in syllabus of each course (if any).
- Suggested to include "mode of delivery" (ex: chalk and talk, PPT, flip classroom and tutorial hour) in lesson plan (Content wise).

**Agenda 6.17: Scheduling of next Board of Studies of meeting.**

- Discussed regarding the scheduling of the next BOS meeting. The next BOS meeting would be in the month of March/April-2021.

**Agenda 6.18: Vote of Thanks.**

- Vote of thanks was presented by Mr. P. Ravi Kishore BOS Chairperson.



**BOS Chairperson**  
**Head of the Department**  
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## Department of Civil Engineering

### Annexure-I

List of new courses in the academic year 2020-2021

S. No	Program	Semester	Course Code	Course Name
1.	B. Tech (CE)	III	191MC3A04	Essence of Indian Traditional Knowledge
2.	B. Tech (CE)	IV	191MC4A06	Biology for Engineers
3.	B. Tech (CE)	III	191ES3T10	Internet of Things
4.	B. Tech (CE)	III	191CE3T04	Computer aided civil engineering drawing
5.	B. Tech (CE)	VII	171CE7E11	Watershed Management
6.	B. Tech (CE)	VII	171CE7E12	Design of Tall Buildings
7.	B. Tech (CE)	VIII	171CE8O07	Green Engineering Systems
8.	M. Tech (Structural Engineering)	III	192ST3E14	Structural Health Monitoring
9.	M. Tech (Structural Engineering)	III	192ST3O01	Repair & Rehabilitation of Structures
10.	M. Tech (Structural Engineering)	III	192ST3O02	Green Building Systems
11.	M. Tech (Structural Engineering)	III	192ST3O03	Basic Concrete Technology
12.	M. Tech (Structural Engineering) Structural Engineering	III	192ST3O04	Basic Foundation Engineering

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## Department of Civil Engineering

### Annexure II

#### List of courses revised in the academic year 2020-2021

S. No	Program	Semester	Course Code	Course Name
1	B. Tech (CE)	I	201ES1I01	Engineering Graphics
2	B. Tech (CE)	III	191BS3T11	Integral transforms and applications of Partial Differential Equations
3	B. Tech (CE)	IV	191BS4T16	Numerical methods & Statistical Techniques (CE, ME, Ag. E)
4	M. Tech (Structural Engineering)	III	192ST3E13	Design of Prestressed Concrete

  
BOS Chairperson

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## Department of civil engineering

### Annexure III

#### Action taken report on Stakeholders Feedback in the Academic Year 2020-2021

S. No	Agenda Item No.	Stakeholders Recommended	Action Taken
1	6.7	Multidisciplinary work nature is to be habituated to the students	As the recruitment trends are demanding for more and more software related core knowledge implementation skills, emphasis is given to software related courses like 3D modelling using Revit as skill-oriented course in the AR20 Curriculum.
	6.3	Expertise in the specific areas	Students securing greater than 8 CGPA are provided with an option of a warding a B.Tech Honours degree in a specialized area of Civil Engineering by completing four additional courses in each semester from fourth semester Onwards.
	6.15	More focus on practical and field knowledge	As a measure of improving the practical approach in students in solving the domain problems, compulsory Surveying camp report submission introduced in the UG level of AR20 B.Tech program.
2	6.10	Students shall be counselled and guided for continuing their higher studies not only in India, but also abroad.	Students reformed that APSSDC initiated master's Program in Germany in association Indo-Euro Synchronization and German varsity for advanced studies.
	6.7	Suggested to incorporate the latest software for skill development of students and making the industry ready	Incorporation of skill-oriented courses like, ANSYS Civil in AR20 Curriculum.
	6.7	It was suggested that improvised experiments such as 3-D photogrammetric and contour mapping be included in the lab.	Based on your feedback, we will revise the lab syllabus.

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3	6.9	Need to incorporate latest developments in industry recommended subjects.	The latest course like safety engineering was included under open electives in the curriculum.
	6.7	Suggested students to participate in skill development programs to sustain in industry.	Students were encouraged to register for certification courses in Google Sketch up, STAADPRO conducted in college.
	6.7	Suggested to give students an idea of the importance of civil engineering and job and research opportunities.	We offer a training program for freshers.
4	6.7	Better to skill-oriented courses to students.	As per the suggestions skill-oriented classes are initiated.
	6.7	Guest lectures are required to achieve the goals.	Guest lecturers will visit the college and give motivational speeches based on suggestions.
	6.15	To provide more insights, various teaching and learning methods must be used.	Various teaching methods, such as quizzes, role plays, seminars, PPTs, and so on, are being implemented in response to suggestions.



**BOS Chairperson**

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