

1.2.1 Number of New Courses Introduced

Department of Civil Engineering

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1	AR19 Curriculum and Syllabus	2
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Department of Civil Engineering
Minimum Credits to be earned: 164 (for Regular students)
131 (for Lateral Entry Students)

Seventh Semester							
1		Elective V (Professional Elective)		3	1	-	3
2		Elective VI (Professional Elective)		3	1	-	3
3		Elective VII (Open Elective III)		3	1	-	3
4	19CE701	Project Work	1,2,3,4,5,6,7,8,9,10,11,12, PSO1, PSO2	-	-	16	8
5	19CE702	Summer Internship II	1,2,5,6,10,12	-	-	-	1.5
Total				9	3	16	18.5
Eighth Semester							
1		Elective VIII (Professional Elective)		-	-	-	3
2		Elective IX (Open Elective IV)		-	-	-	3
3	19CE801	Full Semester Internship (FSI)	1,2,,5, 8, 9, 10, PSO1, PSO2	-	-	-	9
Total				-	-	-	15
Elective V							
Career Path I, II, III and Other Core Electives							
1	19CEC13	Building Information Modeling	3,5,10,PSO2	3	1	-	3
2	19CEC23	Highway Project Formulation and Economics	2,5,10,PSO2	3	1	-	3
3	19CEC33	BIM for Pre-Engineered Building	3,5,10,PSO2	3	1	-	3
4	19CE010	Construction Economics and Finance	3,10,11	3	1	-	3
5	19CE011	Advanced Reinforced Concrete Design	2,3,10, PSO2	3	1	-	3
6	19CE012	Construction Methods and Equipment	2,7,12	3	1	-	3
		MOOCs		-	-	-	3
Elective VI							
1	19CE013	Basics of Dynamics and Earthquake Engineering	1,2,3,12, PSO2	3	1	-	3
2	19CE014	Pavement Analysis and Design	3,12,PSO2	3	1	-	3
3	19CE015	Prestressed Concrete Structures	3,10,12, PSO2	3	1	-	3
		MOOCs		-	-	-	3
Elective VII: Open Elective III							
1	19CE003	Solid Waste Management	3,7, 12	3	1	-	3
2	19EE003	Fundamentals of Electrical Vehicle Technology	2,3,12	3	1	-	3
3	19ME003	Industrial Engineering and Management	1,11	3	1	-	3
4	19EC003	Interfacing and Programming with Arduino	1,2	3	1	-	3
5	19CS003	Data Science for Engineering Applications	2,3,4	3	1	-	3
6	19CH003	Industrial Ecology for Sustainable Development	2,6,7	3	1	-	3
7	19IT003	Fundamentals of Mobile Computing	1,7	3	1	-	3
8	19BS004	Advanced Materials of Renewable Energy	1,7	3	1	-	3

Comment [11]: Revised and updated 15th BoS dated 04.09.2021.

Comment [12]: Revised and updated 15th BoS dated 04.09.2021.

Comment [13]: New Course and approved in 15th BoS

Comment [14]: New Course and approved in 15th BoS

Comment [15]: New Course and approved in 15th BoS

9	19BS005	Applied Linear Algebra for Engineers	1,12	3	1	-	3
Elective VIII							
1	19CE016	Repair and Rehabilitation of Structures	2,7,12,PS02	-	-	-	3
2	19CE017	Remote Sensing and GIS	1,2,5	-	-	-	3
3	19CE018	Pavement Management System	5,12	-	-	-	3
		MOOCs		-	-	-	3
ELECTIVE IX: Open Elective IV							
1	19CE019	Green Buildings	1,7,12	-	-	-	3
2	19EE017	Sustainable Energy	1,2,12	-	-	-	3
3	19ME019	Total Quality Management	1,11	-	-	-	3
4	19EC011	Communication Technologies	1,2	-	-	-	3
5	19CS020	Applications of Artificial Intelligence	2,3,6,7	-	-	-	3
6	19CH016	Green Technologies	1,6,7	-	-	-	3
7	19IT015	Human Computer Interaction	1,7	-	-	-	3
8	19BS006	Handling of Industrial waste and waste water	1,7	-	-	-	3

Comment [16]: New Course and approved in 15th BoS

Comment [17]: New Course and approved in 15th BoS

Department of Civil Engineering
Minimum Credits to be earned: 160 (for Regular students)
127 (for Lateral Entry Students)

Fifth Semester							
1	20CE501	Design and Detailing of RC Structures	3, 10, 12,PSO2	3	-	2	4
2	20CE502	Environmental Engineering	3, 6, 7, 12	3	1	-	3
3	20CE503	Foundation Engineering	2, 3, 8, 12,PSO2	3	1	-	3
4	20CE504	Hydrology	2, 3, 12	3	-	2	4
5		Elective I (Professional Elective)		3	1	-	3
6		Elective II (Open Elective I)		3	1	-	3
7	20CE505	Environmental Engineering Laboratory	3, 6, 7, 12	-	-	3	1.5
8	20TPX01	Term Paper	1,4,10,12	-	-	3	1.5
9	20ESX02	Employability Skills II	1,2,5,8,10, 12	1	1	1	-
10	20HSX12	CC & EC Activities II	6,7,9,10	-	-	1	-
11	20SIX01	Summer Internship I	1,2,8,10, 12	-	-	-	1.5
Total				19	5	12	24.5
Sixth Semester							
1	20CE601	Problem solving using OOPS	1, 5, 12	3	1	-	3
2	20CE602	Design of Steel Structures	3, 5, 10, 12,PSO2	3	1	-	3
3	20CE603	Estimation and costing	1,12	3	1	-	3
4		Elective III (Professional Elective)		3	-	2	4
5		Elective IV (Open Elective II)		3	1	-	3
6	20CE604	Programming Language Laboratory	1,2,3,5	-	-	3	1.5
7	20MPX01	Mini Project	1,2,3,4,5,6, 7,8,9,10, 11,12,PSO1 ,PSO2	-	-	3	1.5
8	20ESX02	Employability Skills II	1,2,5,8,10, 12	1	1	1	3
9	20HSX12	CC & EC Activities II	6,7,9,10	-	-	1	1
10		Audit Course	12	-	-	-	-
Total				16	5	10	23
Elective I							
Career Path I, II, III and Other Core Electives							
1	20CEC11	Principles of Building Architecture	1,3,PSO1, PSO2	3	1	-	3
2	20CEC21	Geometric Design and Highway Materials	1,3,PSO2	3	1	-	3
3	20CEC31	Prefabricated Structures	3, PSO2	3	1	-	3
4	20CE004	Construction Techniques	4,5,11, PSO2	3	1	-	3
5	20CE005	Airport, Railways and Harbour Engineering	1,3,12	3	1	-	3
6	20CE006	Construction Economics and Finance	3,10,11	3	1	-	3
		MOOCs		-	-	-	3
Elective II: Open Elective I							
1	20CE001	Disaster Management	2,7	3	1	-	3
2	20EE001	Electrical Installation, Safety and Auditing	2,3,6,8	3	1	-	3
3	20ME001	Fundamentals of Optimization Techniques	1,2	3	1	-	3
4	20EC001	Sensors for Engineering Applications	1	3	1	-	3
5	20CS001	Fundamentals of Artificial Intelligence	1,2,3	3	1	-	3

Comment [18]: Revised and updated 15th BoS dated 04.09.2021.

Comment [19]: Revised and updated 15th BoS dated 04.09.2021.

Comment [10]: Revised and updated 15th BoS dated 04.09.2021.

Comment [11]: Revised and updated 15th BoS dated 04.09.2021.

6	20CH001	Energy Conversion and Storage Devices	1,3,6,7	3	1	-	3
7	20IT001	Fundamentals of Multimedia	1,5,7	3	1	-	3
8	20BS001	Nano Materials and Technology	1,12	3	1	-	3
Elective III							
Career Path I, II, III and Other Core Electives							
1	20CEC12	Building Services	3,7,12 PSO2	3	-	2	4
2	20CEC22	Highway Design and Simulation	1,3,PSO2	3	-	2	4
3	20CEC32	Pre Engineered Buildings	3,11	3	-	2	4
4	20CE007	AI for Civil Engineering	1, 5, 12	3	-	2	4
5	20CE008	Engineering Geology	1,2,4, PSO1	3	-	2	4
6	20CE009	Irrigation and Water Resources Engineering	3, 5, 10, 12	3	-	2	4
Elective IV: Open Elective II							
1	20CE002	Air Pollution and Environmental Impact Assessment	6,7,12	3	1	-	3
2	20EE002	Renewable Energy Sources	2,7	3	1	-	3
3	20ME002	Principles of Entrepreneurship	1,11	3	1	-	3
4	20EC002	Electronics for Agriculture	1,2	3	1	-	3
5	20CS002	Fundamentals of Machine Learning	2,3	3	1	-	3
6	20CH002	Industrial Safety and Hazard Management	1,2,3,6,8	3	1	-	3
7	20IT002	Fundamentals of Cloud Computing	1,7	3	1	-	3
8	20BS002	Advanced Numerical Techniques	1,2	3	1	-	3
9	20BS003	Functional Materials and Applications	1,7	3	1	-	3
Audit Course							
1	20AT001	Communication Etiquette in Workplaces	-	-	-	-	-
2	20AT002	Contemporary India: Economy, Policy and Society	-	-	-	-	-
3	20AT003	Design The Thinking	-	-	-	-	-
4	20AT004	Ethics and Integrity	-	-	-	-	-
5	20AT005	Indian Heritage and Culture	-	-	-	-	-
6	20AT006	Human Values and Professional Ethics	-	-	-	-	-
7	20AT007	Intellectual Property Rights and Patents	-	-	-	-	-
8	20AT008	Introduction to Journalism	-	-	-	-	-
9	20AT009	Mass Media Communication	-	-	-	-	-
10	20AT010	Science, Technology and Development	-	-	-	-	-
11	20AT011	Social Responsibility	-	-	-	-	-
12	20AT012	The Art of Photography and Film Making	-	-	-	-	-
13	20AT013	Gender Equality for Sustainability	-	-	-	-	-
14	20AT014	Women in Leadership	-	-	-	-	-
15	20AT015	Introduction to Research Methodology	-	-	-	-	-
16	20AT016	Climate Change and Circular Economy	-	-	-	-	-

Comment [I12]: Revised and updated 15th BoS dated 04.09.2021.

Comment [I13]: Revised and updated 15th BoS dated 04.09.2021.

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Third Semester							
1	21MA303	Numerical Methods	1, 12	3	-	-	3
2	21CE302	Building Materials and Concrete Technology	2,4,8, 12, PS01	3	-	2	4
3	21CE303	Building Planning and Drawing	5, 10, 12	3	-	2	4
4	21CE304	Fluid Mechanics	1, 12	3	-	-	3
5	21CE305	Solid Mechanics I	1, 12	3	-	-	3
6	21CE306	Surveying	1, 2, 10, 12	3	-	-	3
7	21CE307	Solid Mechanics Laboratory	1, 4	-	-	3	1.5
8	21CE308	Surveying Laboratory	1, 4	-	-	3	1.5
9	21BEA01	Environmental Studies	1,6,7,12	-	-	-	-
10	21ESX01	Employability Skills I	1,2,5,8,10, 12	1	-	1	-
11	21HSX11	CC & EC Activities I	6,7,9,10	-	-	1	-
Total				19	-	12	23
Fourth Semester							
1	21CE401	Hydraulics and Hydraulic Machinery	1, 12	3	-	-	3
2	21CE402	Soil Mechanics	1, 2, 12, PS01	3	-	-	3
3	21CE403	Solid Mechanics II	1, 12	3	-	-	3
4	21CE404	Structural Analysis	1, 12	3	-	-	3
5	21CE405	Transportation Engineering	3, 12, PS02	3	-	2	4
6	21CE406	Fluid Mechanics and Hydraulic Machinery Laboratory	1, 4	-	-	3	1.5
7	21CE407	Soil Mechanics Laboratory	1, 4	-	-	3	1.5
8	21ESX01	Employability Skills I	1,2,5,8,10, 12	1	-	1	2
9	21HSX11	CC & EC Activities I	6,7,9,10	-	-	1	1
Total				16	-	10	22

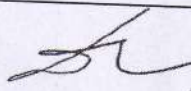
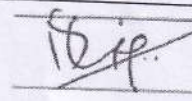
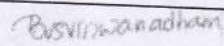

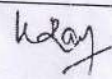

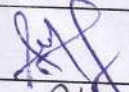



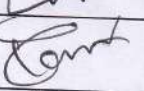
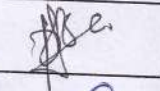


Comment [114]: Revised and updated 15th BoS dated 04.09.2021.


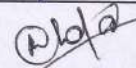

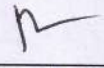


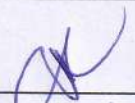


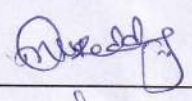

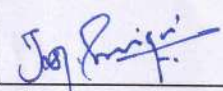
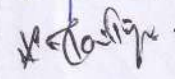
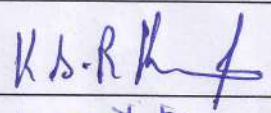

Comment [115]: Revised and updated 15th BoS dated 04.09.2021.

GMR INSTITUTE OF TECHNOLOGY
DEPARTMENT OF CIVIL ENGINEERING
15th Board of Studies Meeting

Faculty Attended

26.03.2022


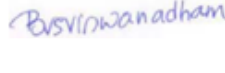




Name	Designation	Signature
Dr. D Rama Seshu	Professor/Civil NIT Warangal	
Dr. P.Rajasekhar	Professor/Civil Osmania University, Hyderabad	
Dr. BVS Viswanadham	Professor/Civil IIT Bombay	
Dr. T.V. Praveen	Professor/Civil Andhra University, Vishakhapatnam	
Dr. K Ramu	Professor/Civil JNTU Kakinada Kakinada	
Er. B Narendra Kumar	M.D, Viswanadh Avenues	
Dr. A Vijayakumar	Professor/GMRIT	
Dr. G. Ganesh Prabhu	Professor/GMRIT	
Dr.J. Sridhar	Associate Professor/GMRIT	
Dr. Jyoti Prakash Giri	Assistant Professor/GMRIT	
Mr. U Siva Rama Krishna	Assistant Professor/GMRIT	
Dr. Naga Siva Pavani Peraka	Assistant Professor/GMRIT	
Dr. P. Sarath Chandra	Assistant Professor/GMRIT	
Dr. S.S.G. Prasad	Assistant Professor/GMRIT	

Dr. R. Gokulan	Assistant Professor/GMRIT	
Dr. Madhusmita Ghadai	Assistant Professor/GMRIT	
Dr. A Arun Solomon	Assistant Professor/GMRIT	
Mr. B.P.R.V.S.Priyatham	Assistant Professor/GMRIT	
Mr. K.Naga Rajesh	Assistant Professor/GMRIT	
Mr. Bimalendu Dash	Assistant Professor/GMRIT	
Mr. B A V Ram Kumar	Assistant Professor/GMRIT	
Mr. P. Ramu	Assistant Professor/GMRIT	
Mr. S.H. Vamsi Krishna	Assistant Professor/GMRIT	
Mr. G. Madhava Krishna Reddy	Assistant Professor/GMRIT	
Ms. Reshma das Mohapatra	Assistant Professor/GMRIT	
Mr. R. Karthik	Assistant Professor/GMRIT	
Mr. K. Raviteja	Assistant Professor/GMRIT	
Mr. K S R Kumar	Assistant Professor/GMRIT	
Mr. K Srikanth	Assistant Professor/GMRIT	
Ms. S. Sowjanya	Assistant Professor/GMRIT	-
Mr. V Raja Sekhar	Assistant Professor/GMRIT	-


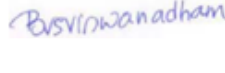




Department of Civil Engineering

**15th Board of Studies (Virtual) Meet
26 March 2022, 10-30 AM
Minutes of the Meeting**


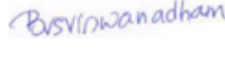




S.No	Points Discussed	Remarks
1.	Welcoming Dr. K Ramu, Professor, JNTU Kakinada as the External BoS Member: Dr. A Vijaya Kumar welcomed the panel members and introduced the new BoS member, Dr. K Ramu, Professor, Department of Civil Engineering, JNTU Kakinada. Professor is nominated by the Institute committee to act as a JNTUK nominated BoS member to monitor the curriculum, and academic related activities. The panel members greeted Dr. K Ramu and proceeded with the discussion.	
2.	14th BoS: Action Taken Report Approved by the Panel	
3.	Review & Finalization of Electives in 7th and 8th Semesters of AR19 and AR20: Course structure is approved by the panel members	
4.	19CEC13 Building Information Modeling: Panel members enquired about the availability of required software packages at the institute to impart practical knowledge to the students. Dr. A Vijaya Kumar responded that the REVIT and NAVISWORKS software packages are available at the department computing facility. Panel approved the course.	

						
Dr. K Ramu	Dr. BVS Viswanadham	Dr. D. Rama Seshu	Dr. T.V. Praveen	Dr. P. Rajasekhar	Mr. B. Narendra Kumar	Mr. G. Suresh
JNTU Kakinada	IIT Bombay	NIT Warangal	Andhra University, Vishakhapatnam	Osmania University, Hyderabad	Viswanadh Avenues	AEE, Dept. of WRE AP


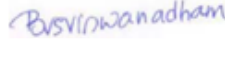




5.	19CEC23 Highway Project Formulation and Economics: Panel members reviewed the course contents and approved the course for inclusion in the AR19 and AR20 curricula.	
6.	19CEC33 BIM for Pre-Engineered Building: Panel members asked about the basic difference between the courses 19CEC13 and 19CEC33. Dr. Arun and Dr. A Vijaya Kumar responded that 19CEC33 specifically explains the modeling of Pre-Engineered building aspects in BIM, while 19CEC13 discusses most of the aspects of BIM. Panel approved the course.	
7.	19CE010 Construction Economics and Finance: Panel members reviewed the course contents and approved the course for inclusion in the AR19 and AR20 curricula.	
8.	19CE011 Advanced Reinforced Concrete Design: <ul style="list-style-type: none"> The title of Unit -III (Combined and Pile Foundation) needs revision. Panel members reviewed the textbooks and references given for the course and suggested to include "Sub-Structural Design" by Swami Saran in the list of references 	
9.	19CE012 Construction Methods and Equipment: Panel members reviewed the course contents and approved the course for inclusion in the AR19 and AR20 curricula.	
10.	19CE013 Basics of Dynamics and Earthquake Engineering: Panel members reviewed the course contents and approved the course for inclusion in the AR19 and AR20 curricula.	
11.	19CE014 Pavement Analysis and Design: Panel members reviewed the course contents and approved the course for inclusion in the AR19 and AR20 curricula.	
12.	19CE015 Prestressed Concrete Structures: External panel members discussed with the faculty to know whether the advanced topics are included in the curriculum. The faculty stated that the fundamental concepts are only studied at UG level while the advanced topics will be studied in M.Tech.	


						
Dr. K Ramu	Dr. BVS Viswanadham	Dr. D. Rama Seshu	Dr. T.V. Praveen	Dr. P. Rajasekhar	Mr. B. Narendra Kumar	Mr. G. Suresh
JNTU Kakinada	IIT Bombay	NIT Warangal	Andhra University, Vishakhapatnam	Osmania University, Hyderabad	Viswanadh Avenues	AEE, Dept. of WRE AP

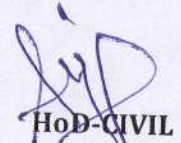
	The panel approved the course contents.	
13.	19CE016 Repair and Rehabilitation of Structures: Panel members reviewed the course contents and approved the course for inclusion in the AR19 and AR20 curricula.	
14.	19CE017 Remote Sensing and GIS: Panel members reviewed the course contents and approved the course for inclusion in the AR19 and AR20 curricula.	
15.	19CE018 Pavement Management System: Panel members reviewed the course contents and approved the course for inclusion in the AR19 and AR20 curricula.	
16.	Additional electives in M.Tech curriculum: The existing M.Tech curriculum structure, courses, and titles were approved by the panel in the 14 th BoS meeting. As per the recommendations made in the National Education Policy and the guidelines given by AICTE, additional electives are prepared to provide ample scope for the students to update their skills on cutting edge technologies in multidisciplinary environment. Therefore, AR16 PG regulations (M.Tech in Transportation Engineering) of GMRIT, three compulsory courses and two electives are now offered in the 1 st and 2 nd semesters. So, in the current BoS, the revised list of electives are presented to the panel members for approval. The panel approved the same.	
17.	Honors and Minors courses: The revised list of honors and existing minor courses are presented to the panel members for approval. The panel approved the same.	
18.	Open Electives: Panel members approved the course contents of open electives offered by the departments in 7 th and 8 th semesters. Panel members also appreciated the department for offering Green Buildings and Disaster Management courses as Open Electives.	

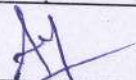


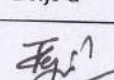

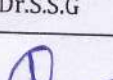
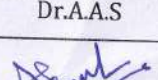
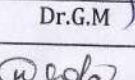





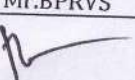
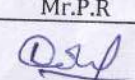
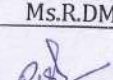

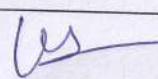
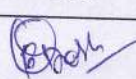
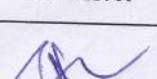
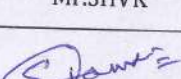

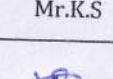
						
Dr. K Ramu	Dr. BVS Viswanadham	Dr. D. Rama Seshu	Dr. T.V. Praveen	Dr. P. Rajasekhar	Mr. B. Narendra Kumar	Mr. G. Suresh
JNTU Kakinada	IIT Bombay	NIT Warangal	Andhra University, Vishakhapatnam	Osmania University, Hyderabad	Viswanadh Avenues	AEE, Dept. of WRE AP

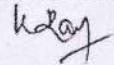

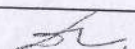
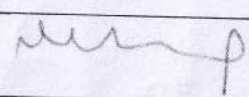
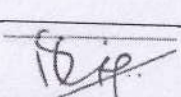
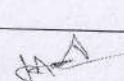
19.	Approval for readmitted students with transitory regulations: Panel approved the readmission of a student who discontinued the course in AR16 and readmitted in AR19 with transitory regulations. Panel also approved that the student can now continue the course work according to AR16 regulation.	
20.	Updating of program wise subject expert lists The panel approved the subject experts list for civil engineering courses	
21.	General Discussion: <ul style="list-style-type: none"> • Question banks: Panel members suggested to mark the level of difficulty of the questions so that the automated question paper setting algorithm could be controlled. Also, panel members suggested that the moderator should maintain the confidentiality and closely monitor to avoid repetition of questions in the examinations. • Software packages: Panel members enquired about the availability of software packages at the institute to impart practical knowledge to the students. Dr. A Vijaya Kumar informed that AUTOCAD, REVIT, NAVISWORKS, STAADPro, ArcGIS, FEFLOW, IITPAVE, and other modelling software are available at the department computing facility. • Reflections: Dr. A Vijaya Kumar mentioned that the department currently had 11 doctorates and remaining faculty members are pursuing Ph.D. Professor also presented the placement status of the department. 	

						
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Coordinator(s)


HoD-CIVIL

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Dr.PNSP	Mr.USRK	Mr.PM	Mr.PSC	Mr.R.K	Mr.BPRVS	Mr.P.R	Ms.R.DM
							
Mr.RT	Mr.KSRK	Mr.KNR	Mr.BMD	Mr. BAVR	Mr.SHVK	Mr.G.MKR	Mr.K.S
							

						
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