



DEPARTMENT OF CIVIL ENGINEERING

VAAGDEVI COLLEGE OF ENGINEERING (Autonomous)

Bollikunta, Khila Warangal (Mandal), Warangal Urban-506 005 (T.S), www.vaagdevi.edu.in

COURSE STRUCTURE (R20 Regulation)

I SEMESTER

S. No	Course Code	Title of the Course	L	T	P	Credits
1.	BSC	Linear Algebra and Vector Calculus	3	1	0	4
2.	BSC	Chemistry for Civil Engineering	3	1	0	4
3.	ESC	Basic Mechanical Engineering	3	0	0	3
4.	ESC	Programming for Problem Solving (C & C++)	4	0	0	4
5.	HSS	i-English (individualized English) skills lab	0	0	3	1.5
6.	ESC	Programming for Problem Solving Lab (C & C++)	0	0	2	1
7.	ESC	Engineering Workshop	0	0	3	1.5
8.	MC	Induction Program				
Total Credits			12	2	8	19

II SEMESTER

S. No	Course Code	Title of the Course	L	T	P	Credits
1.	BSC	Differential Calculus and Transforms	3	1	0	4
2.	BSC	Engineering Physics for Civil Engineering	4	0	0	4
3.	PC	Engineering Mechanics	3	1	0	4
4.	ESC	Basic Electrical and Electronics Engineering	3	0	0	3
5.	ESC	Introduction to python programming	1	0	2	2
6.	ESC	English Skills Lab For Digital Natives	0	0	3	1.5
7.	ESC	Engineering Drawing with AUTOCAD	1	0	2	2
8.	ESC	Engineering Physics Lab	0	0	3	1.5
9.	MC	NSS/ NCC	2	0	0	0
Total Credits			16	2	10	22

III SEMESTER

S. No	Course Code	Title of the Course	L	T	P	Credits
1	BSC	Probability Distribution and Numerical Methods	3	1	0	4
2	PC	Strength of Materials	3	1	0	4
3	PC	Fluid Mechanics	3	1	0	4
4	PC	Surveying	3	0	0	3
5	PC	Construction Materials	3	0	0	3
6	PC	Strength of Materials Lab	0	0	3	1.5
7	PC	Surveying Lab	0	0	3	1.5
8	PC	Building Drawing Lab – CAD	1	0	2	2
9	MC	Ethical and moral responsibility	2	0	0	0
Total Credits			18	3	8	23

IV SEMESTER

S. No	Course Code	Title of the Course	L	T	P	Credits
1	PC	Geotechnical Engineering - 1	3	1	0	4
2	PC	Hydraulics & Hydraulic Machinery	3	0	0	3
3	PC	Structural Analysis – I	3	1	0	4
4	PC	Engineering Geology	3	0	0	3
5	PC	Concrete Technology	3	0	0	3
6	PC	Fluid Mechanics & Hydraulic Machinery Lab	0	0	3	1.5
7	PC	Engineering Geology Lab	0	0	2	1
8	PC	Concrete Technology Lab	0	0	3	1.5
9.	MC	Gender Sensitization	2	0	0	0
Total Credits			17	2	8	21



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BOS/I

ONE CREDIT COURSE

S.No	Course Code	Title of the Course	L	T	P	Credits
1		Green Building	2	0	0	1
2		Software Application in Civil Engineering	2	0	0	1
3		Phyton for Data Science	2	0	0	1
4		Introduction to AI	2	0	0	1
5		3D Printing	2	0	0	1
6		Smart city	2	0	0	1

If the students completed any three one credit course, he/she can opt out one open elective course.

List of Professional Electives

STRUCTURAL ENGINEERING

- Pre-Stresses Concrete Structures
- Repair and Rehabilitation of Structures
- Finite Element Methods
- Advanced Concrete Structures
- Seismic Design of Structures
- Bridge Engineering

TRANSPORTATION ENGINEERING

- Airport Planning and Design
- Advanced Highway Materials
- Intelligent Transportation Systems
- Urban Planning Techniques and Practices
- Transportation Economics
- Waterway Transportation



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GEOTECHNICAL ENGINEERING

- Ground Improvement Techniques
- Analysis of Deep Foundations
- Offshore Geotechnical Engineering
- Geotechnical Earthquake Engineering
- Geoenvironmental Engineering
- Geosynthetics Engineering

ENVIRONMENTAL ENGINEERING

- Solid and Hazardous Waste Management
- Air Pollution and Control Engineering
- Industrial Wastewater Management
- Environmental Impact Assessment
- Groundwater Flow and Contaminant Transport
- Remote sensing and GIS for Environmental applications

CONSTRUCTION TECHNOLOGY AND MANAGEMENT

- Construction Management
- Construction Economics & Finance
- Contracts & Specifications
- Construction Methods & Equipment
- Construction Quality & Safety Management
- Organizational Behaviour

WATER RESOURCES ENGINEERING

- Water Resources Systems Planning and Management
- Watershed Management
- Urban Water Management
- Water Quality Modelling
- Rural Water Supply and Environment Sanitation
- Advanced Fluid Mechanics




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List of Open Elective


- Artificial Intelligence
- Managerial Economics and Financial Analysis
- Power Plant Engineering
- Internet of Things
- Python for Data Science
- Entrepreneur Development
- Digital Image Processing
- Introduction Real Estate and Housing Finance
- Cyber Security


6/11/2020


Dr. K. THIRUPATHI RAO
Internal BOS-Member


6/11/2020

Dr. A. DIVYASHANKAR
Internal BOS-Member


6/11/2020

Dr. A.R. PRAKASH
Internal BOS-Member


06/11/20

Dr. R. BHARATHI MURTHY
Chairman - BOS (Civil)



VAAGDEVI COLLEGE OF ENGINEERING (Autonomous)

Bollikunta, Khila Warangal (Mandal), Warangal Urban-506 005 (T.S)

DEPARTMENT OF CIVIL ENGINEERING

MINUTES OF BOARD OF STUDIES MEETING

held on 21.11.2020 at 10.30 am

Members Present

S.No	Name and Address	Designation	Signature
1.	Dr. R. Bharathi Murugan Head, Dept. of Civil Engineering, VCE, Warangal	Chairman	
2.	Dr. P. Sravana Prof & Head, Dept. of Civil Engineering, JNTUH CEH, Hyderabad.	Member (University Nominee)	
3.	Dr. P. Rathish Kumar Prof & Head, Dept. of Civil Engineering, NIT, Warangal	Member (Subject Expert)	
4.	Er. A. Nagender Rao Superintendent Engineer, R&B, Hanamkonda	Member (Representative from Industry)	
5.	Dr. K. Thirupati Rao, Vice- Principal & Prof of Civil Engineering, VCE, Warangal.	Member (Faculty)	
6.	Dr. G. Dinesh Kumar Dept. of Civil Engineering, VCE, Warangal.	Member (Faculty)	
7.	Dr. A. R. Prakash Dept. of Civil Engineering, VCE, Warangal.	Member (Faculty)	
8.	Er. Hitishkumar Gudur Research Engineer, Alliens Developers, Hyderabad	Member (Alumni)	

The following decision were taken in the Board of Studies meeting,

1. The Board of Studies Committee members approved the suggestions submitted by the Department Board of Studies members for the modifications of Course Structure and Syllabi to be made in R18 to R20.
2. It is resolved to approve the course structure and Syllabi of R20 for I - Year (I & II Semester) B.Tech - Civil Engineering from the academic year 2020 - 2021.
3. It is resolved to approve the course structure and Syllabi for M.Tech - Structural Engineering Program from the academic year 2020 - 2021 under R20 Regulation.

The Chairman of Board of studies thanked all the members for their Suggestions and valuable Guidance towards framing of Course Structure and Syllabi under R20 Regulation.

Chairman/BoS



VAAGDEVI COLLEGE OF ENGINEERING (Autonomous)

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R20

DEPARTMENT OF CIVIL ENGINEERING

COURSE STRUCTURE

(Applicable for the batches admitted from A.Y. 2020 – 2021 onwards)

I SEMESTER

S. No	Category	Title of the Course	L	T	P	Credits
1.	BSC	Linear Algebra and Vector Calculus	3	1	0	4
2.	BSC	Applied Physics	3	1	0	4
3.	ESC	Basic Mechanical Engineering	3	0	0	3
4.	ESC	Programming for Problem Solving	4	0	0	4
5.	BSC	Physics Lab	0	0	3	1.5
6.	ESC	Programming for Problem Solving Lab	0	0	3	1.5
7.	ESC	Engineering Workshop	0	0	2	1
8.	MC	Induction Program	0	0	0	0
Total Credits			13	2	8	19

II SEMESTER

S. No	Category	Title of the Course	L	T	P	Credits
1.	BSC	Differential Calculus and Transforms	3	1	0	4
2.	BSC	Applied Chemistry	4	0	0	4
3.	PC	Engineering Mechanics	3	1	0	4
4.	ESC	Basic Electrical and Electronics Engineering	3	0	0	3
5.	HSS	English for Effective Communication	2	0	0	2
6.	ESC	Python Programming Lab	1	0	2	2
7.	ESC	Engineering Drawing Lab	0	0	4	2
8.	MC	NSS/ NCC	0	0	0	0
Total Credits			16	2	6	21

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R20

STRUCTURAL ENGINEERING

COURSE STRUCTURE

(Applicable for the batches admitted from A.Y. 2020 – 2021 onwards)

I SEMESTER

S.No	Category	Title of the Course	L	T	P	Credits
1.	PCC	Theory of Elasticity	3	0	0	3
2.	PCC	Behaviour of Concrete Structures	3	0	0	3
3.	PEC	Elective –I i)Advanced Concrete Technology ii)Matrix Methods of Structural Analysis iii) Structural Stability	3	0	0	3
4.	PEC	Elective –II i)Building Services ii) Precast and Prefabricated Structures iii) Special Concretes	3	0	0	3
5.	PCC	Structural Design Laboratory	0	0	4	2
6.	PCC	Advanced Concrete Technology Laboratory	0	0	4	2
7.	MLC	Experimental Methods in Structural Engineering	2	0	0	2
8.	AC	Stress Management	2	0	0	0
Total Credits			16	0	8	18

II SEMESTER

S. No	Category	Title of the Course	L	T	P	Credits
1.	PCC	Finite Element Analysis of Structures	3	0	0	3
2.	PCC	Structural Dynamics	3	0	0	3
3.	PEC	Elective III i)Structural Health Monitoring ii)Repair and Rehabilitation of Structures iii)Analysis and Design of Bridges	3	0	0	3
4.	PEC	Elective IV i)Theory of Plates ii)Tall Structures iii)Design of Prestressed Concrete Structures	3	0	0	3
5.	PCC	Advanced Computing Laboratory	0	0	4	2
6.	PCC	Numerical Analysis Laboratory	0	0	4	2
7.	SEM	Seminar	0	0	4	2
8.	AC	English for Scientific Communication	2	0	0	0
Total Credits			14	0	12	18

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11/11/2020

Anthony

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A. R. Prakash

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R20

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(Applicable for the batches admitted from A.Y. 2020 – 2021 onwards)

III SEMESTER

S. No	Category	Title of the Course	L	T	P	Credits
1	PEC	Elective V	3	0	0	3
		i)Design of Steel Concrete Composite Structures				
		ii)Offshore and Underwater Construction				
		iii)Earthquake Analysis and Design of Structures				
2	OPEC	Open Elective	3	0	0	3
		i)Business Law and Ethics				
		ii)Project Management				
		iii)Advanced Mathematical Modelling				
3	PROJ	Dissertation Phase I	0	0	20	10
Total Credits			6	0	20	16

IV SEMESTER

S. No	Category	Title of the Course	L	T	P	Credits
1	PROJ	Dissertation Phase II	0	0	32	16
Total Credits			0	0	32	16

OPEN ELECTIVE COURSE OFFERED TO OTHER DEPARTMENT

S. No	Category	Title of the Course	L	T	P	Credits
1.	OPEC	Waste Management	3	0	0	3
Total Credits			3	0	0	3

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