SETHU INSTITUTE OF TECHNOLOGY, PULLOR, KARIAPATTI – 626115

(An Autonomous Institution)

DEPARTMENT OF CIVIL ENGINEERING

MINUTES OF 7TH MEETING OF BOARD OF STUDIES HELD ON 14.09.2019

The seventh meeting of Board of Studies was held on 14.09.2019 in the Seminar Hall of Department of Civil Engineering at Sethu institute of Technology

The following members were present:

S.No	Name of the Member	Position	Signature
1.	Dr.C.Jenifa Latha	Chairperson - BOS	
2.	Dr. T. Sekar	**Member – Academia** Prof / Civil Engg. Anna University, Ramanad	14/9/19
3.	Dr. S. Nagan	**Member – Academia** Professor / Civil Engg. TCE, Madurai	14/9/19.
4.	Dr. P. Vincent	**Member – Academia** Professor / Civil Engg. MSEC, Sivakasi	14/9/19
5.	Dr. R. Vel Kennedy	**Member – Academia** Professor / Civil Engg. TCE, Madurai	14/9/19
6.	Mr. M. Selvaraj	Member - Industry Proprietor - Sai Designers Madurai	14/9/19.
7.	Mr.Mohammed Meera Maideen	Member - Alumini	
8.	Mr.M.MohamedFayyaz	Member - Alumini	
9.	Ms.J.Sara Banu	Member - Alumini	
10.	Dr. B. Jeyaprabha	Member - Internal	
11.	Dr. P.Oliver Jayaprakash	Member - Internal	
12.	Dr.R.Anandakumar	Member - Internal	
13.	Dr.C.Mekala	Member - Internal	14/9/19
14.	Ms.B.Shanmugavalli	Member - Internal	14/9/19

S.No	Name of the Member	Position	Signature
15.	Ms.K.Pandeeswari	Member - Internal	
16.	Mr.M.Suresh	Member - Internal	
17.	Mr.Krishnakumar.M	Member - Internal	
18.	Ms.K.Dhivya	Member - Internal	
19.	Mr.R.Vijayan	Member - Internal	
20.	Ms.V.Anandhi	Member - Internal	
21.	Ms.P.Sasirekha	Member - Internal	
22.	Mr.A.M.Arun Mohan	Member - Internal	
23.	Mr.S.Vignesh Bharathi	Member - Internal	
24.	Ms.S.Bharathi	Member - Internal	
25.	Ms.A.Subalakshmi	Member - Internal	
26.	Mr.P.Rajeswaran	Member - Internal	
27.	Ms.G.Vigneswari	Member - Internal	
28.	Ms.K.Jeyagandhi	Member - Internal	
29.	Mr.T.G.Ramkumar	Member - Internal	
30.	Ms.N.ManiBharathi	Member - Internal	
31.	Mr.C.Udhayan	Member - Internal	
32.	Mr.R.Manikandan	Member - Internal	
33.	Mr.R.Karuppasamy	Member - Internal	
34.	Ms.M.Abinaya	Member - Internal	
35.	Mr.N.Veera Sekar	Member - Internal	
36.	Mr.R.Logaraja	Member - Internal	
37.	Ms.B.Mallika	Member - Internal	
38.	Ms.K.Pavithra Priyadharshini	Member - Internal	
39.	Mr.A.Rajeshwaran	Member - Internal	

S.No	Name of the Member	Position	Signature
40.	Ms. K. Uma manimekalai	Member - Alumini	K. Uma Manimekalai
41.	Ms. J. Lakshmi Priya	Member - Alumini	

The Chairperson Dr.C. Jenifa Latha, welcomed the members of the Board of Studies and presented the following:

- Department Profile
- Revised Mission Statements, PEOs, POs and PSOs
- Analysis of Stakeholders Feedback on existing R2015 curriculum
- Proposed R2019 Curriculum
- Syllabi for first year relevant subjects
- Grouping of Electives
- New Courses introduced under R2019
- Mapping of Curriculum with PSCs
- Employability Enhancement and Skill Development Courses
- Entrepreneurship Courses
- Interdisciplinary Courses
- Value Added Courses
- Percentage of change in R2019 Curriculum
- List of examiners from other institutions for Question Paper setting, paper evaluation, etc.

B.E. Civil Engineering Program

The following points were discussed:

1. Revision of Mission Statements, Program Outcomes and Program Specific Outcomes

1.1. The existing and the revised Mission statements of the Department were presented by the Chairperson *and the members of BOS resolved to approve and recommend the revised Mission Statements of the UG program to the Academic Council.*

Existing Mission	Revised Mission
• To offer quality undergraduate & post graduate technical education and research guidance in civil engineering and produce engineers, technologists, scientists and citizens who will contribute to the growth and development of the country and to the needs of the industry.	• To provide quality technical educational practices to enable the graduates to become competent civil engineering professionals to meet the needs of the industry.
• To provide state-of-the art resources that contributes to an excellent learning environment.	• To provide state-of-the art resources those contribute to an excellent learning environment.
• To produce competent practicing civil engineers and entrepreneurs by imparting necessary skills and cultivating moral and ethical values.	• To develop skills in recent technological trends of civil engineering to enhance employability, entrepreneurship higher education.

• To establish regular and efficient interaction with industries for the benefit of faculty members and students.	• To establish interaction with industry for the knowledge enhancement and consultancy.
• To motivate the students to take up competitive exams and pursue higher education	• To promote research and development activities in emerging areas of civil engineering
• To promote research and development activities in emerging areas of civil engineering and offer services to society and industry through education, research and consultancy activities.	• To offer services to society and industry through education, research and consultancy activities.

1.2. The existing and the revised Program Outcomes (POs) of B.E Civil engineering program were also presented and *the members of BOS resolved to approve and recommend the revised PO Statements of the UG program to the Academic Council.*

Sl. No.	Existing Program Outcomes (POs)	Revised Program Outcomes (POs)
1.	Apply knowledge of mathematics, science, engineering fundamentals and concepts of civil engineering to the solution of complex civil Engineering problems. **(Engineering knowledge)**	No Modification
2.	Identify, formulate, review research literature, and analyze complex civil engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences. **(Problem analysis)**	No Modification
3.	Design solutions for complex civil engineering problems and design system components or processes to satisfy specified client needs as per design specifications and code provisions with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. **(Design & Development of Solutions)**	No Modification
4.	Investigate complex civil engineering problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. **(Conduct investigations of complex problems)**	No Modification

5.	Select and apply appropriate techniques, resources, modern engineering tools and software for the analysis and design of complex civil engineering problems with an understanding of their limitations. **(Modern tool usage)**	Create, select and apply appropriate techniques, resources, modern engineering tools and software for the analysis and design of complex civil engineering problems with an understanding of their limitations. **(Modern tool usage)**
6.	Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the civil engineering practice. **(The engineer and society)**	No Modification
7.	Understand the impact of the civil engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. **(Environment and sustainability)**	No Modification
8.	Apply ethical principles and commit to professional ethics and responsibilities and norms of civil engineering practice. **(Ethics)**	No Modification
9.	Function effectively as a member / leader in diverse teams or in multidisciplinary settings in handling civil engineering projects. **(Individual & team work)**	No Modification
10.	Communicate effectively with the engineering community and with society at large in both verbal and written forms on complex civil engineering activities. **(Communication)**	Communicate effectively on complex civil engineering activities with the engineering community and society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. **(Communication)**

11.	Apply civil engineering and management principles in managing construction projects as a member or as a leader in a team, in multidisciplinary environments to achieve efficient and cost-effective solutions. **(Project Management & Finance)**	Demonstrate knowledge
12.	Recognize the need for, and have the preparation and ability to engage in independent and life- long learning in the broadest context of technological change. **(Lifelong Learning)**	No Modification

1.3. The existing and the revised Program Specific Outcomes (PSOs) of B.E Civil Engineering program were presented and *the members of BOS resolved to approve and recommend the revised PSO Statements of the UG program to the Academic Council.*

Existing Program Specific Outcomes	Revised Program Specific Outcomes
Excel in core areas of Civil Engineering such as Structural and Environmental engineering with proficiency in mathematics and physical sciences.	Plan, analyze, design, execute and maintain civil engineering projects in a cost effective manner without overexploitation of natural resources.
Plan, analyse, design, execute and maintain civil engineering structures in a cost effective manner without overexploitation of natural resources.	Apply the innovative techniques to explore future frontiers of civil engineering for knowledge updation and dissemination progressively

2. <u>Analysis of the stakeholders' feedback regarding curriculum and syllabi</u>

The Chairperson presented the Analysis of the stakeholders‟ feedback regarding curriculum and syllabi of R2015 to the members of BOS. (Given in **Annexure I).** *The members suggested seeing the possibility of incorporating the stakeholders' feedback while framing the syllabus for R2019.*

3. <u>Proposed curriculum R2019 and syllabi for the relevant first year courses</u>

The Chairperson presented the proposed curriculum R2019 (given in Annexure II) and syllabi for the relevant first year courses „Introduction to Civil Engineering‟ and „Computer Aided Building Drawing‟ (given in Annexure III) to the members of BOS. *The members of BOS resolved to approve and recommend the Proposed curriculum R2019 of the UG program and syllabi for the relevant first year courses, to the Academic Council.*

4. <u>Electives and their Grouping in R2019 curriculum</u>

The Chairperson presented the grouping of all the Professional Elective Courses available in the R2019 curriculum under six major domains as mentioned below to the members of

BOS. *The members of BOS resolved to approve and recommend the List of Electives for the UG program to the Academic Council.*

Sl. No.	Domain	Course Code	Course Name
1.	Structural Engineering	19UCE901	Prefabricated Structures
2.		19UCE902	Finite Element Methods
3.		19UCE903	Repair and Rehabilitation of Structures
4.		19UCE904	Prestressed Concrete Structures
5.		19UCE905	Concrete Technology
6.		19UCE906	Ground Improvement Techniques
7.	Environmental Engineering	19UCE907	Environmental Impact Assessment
8.		19UCE908	Industrial Waste Management
9.		19UCE909	Municipal Solid Waste Management
10.		19UCE910	Environmental Laws and Policies
11.		19UCE911	Rural Water Supply and Onsite Sanitation Systems
12.		19UCE912	Air & Noise Pollution Management & Control
13.	Construction Management	19UCE913	Housing Planning and Management
14.		19UCE914	Building Construction Practice & Productivity
15.		19UCE915	Town Planning and Architecture
16.		19UCE916	Sustainable Construction Methods
17.		19UCE917	Construction Cost Analysis & Contract Management
18.	Transportation Engineering & Surveying	19UCE918	Modern Surveying
19.		19UCE919	Traffic Engineering and Management
20.		19UCE920	Airport, Docks and Harbor Engineering
21.		19UCE921	Urban Planning and Development
22.		19UCE922	Intelligent Transportation Systems
23.	Water Resources Engineering	19UCE923	Irrigation Engineering
24.		19UCE924	Hydrology
25.		19UCE925	Ground Water Engineering
26.		19UCE926	Hydraulic Modelling
27.		19UCE927	Irrigation Structures
28.	Geotechnical Engineering	19UCE928	Geotechnical Design
29.		19UCE929	Offshore Engineering
30.		19UCE930	Rock Mechanics

5. New Courses Introduced in R2019

The Chairperson presented the list of New Courses introduced in the proposed R2019 curriculum to the members of BOS as follows and *the members of BOS resolved to approve and recommend the same to the Academic Council.*

Sl. No.	Course Name	Credits
1.	19UCE205 Introduction to Civil Engineering	3
2.	19UCE302 Engineering Geology and Construction Materials	3
3.	19UCE303 Basics of Engineering Mechanics	4
4.	19UCE304 Water Supply Engineering	3
5.	19UCE306 Surveying	3
6.	19UCE307 Seminar	1
7.	19UCE308 Material Testing Laboratory	1.5
8.	19UCE309 Surveying Laboratory	1.5
9.	19UCE404 Waste water Engineering	3
10.	19UCE407 Water and Waste Water Laboratory	1.5
11.	19UCE507 Creative Thinking and Innovation	1
12.	19UCE509 Survey Camp	1
13.	19UCE601 Structural Analysis	4
14.	19UCE607 Product Development Project	4
15.	19UCE608 Software Application Laboratory	1.5
16.	19UCE702 Estimating and Costing	4
17.	19UCE703 Smart City Technologies	3
18.	19UCE871 - Artificial Intelligence in Civil Engineering	1
19.	19UCE872 - Design of Scaffolding	1
20.	19UCE873 -Applications of Robotics in Civil Engineering	1
21.	19UCE874 - Drone surveying	1
22.	19UCE875 - Recycled Construction Materials	1
23.	19UCE876 - Practical Building Information Modeling	1
24.	19UCE877 - Building Safety	1

25.	19UCE878 - Bar Bending and Ductile detailing	1
26.	19UCE879 - Global Climate Change and Vulnerability Assessment	1
27.	19UCE880 - Paver Block Manufacturing as per IS code	1
28.	19UCE920 Disaster Preparedness and Planning	3
29.	19UCE921 Structural Design and Drawing	3
30.	19UCE922 - Environmental Laws and Policies	3
31.	19UCE923 - Environmental Quality Monitoring	3
32.	19UCE924 - Sustainable Construction	3
33.	19UCE925 - Air and Noise Pollution Control and Management	3
34.	19UCE926 - Valuation Engineering	3
35.	19UCE927 - Application of Remote Sensing & GIS in Civil Engineering	3
36.	19UCE928 - Instrumentation and Sensor Technology for Civil Engineering	3
37.	19UCE929 - Design of Formwork	3
38.	19UCE930 - Masonry Structures	3
39.	19UCE976 - Metro Systems and Engineering	3
40.	19UCE977 - Road Safety	3
41.	19UCE978 - Solid Waste Management	3

6. <u>Mapping of Program Specific Criteria with the Courses Proposed in R2019</u>

The Chairperson presented the Program Specific Criteria identified from ABET 2019 – 20 as shown below and also the mapping of the proposed curriculum R2019 with each Criteria (given in **Annexure IV)**, to the members of BOS. *The members of BOS resolved to approve and recommend the* mapping *of the UG courses with the stated PSCs, to the Academic Council.*

7. <u>Employability Enhancement, Entrepreneurship Development and Skill Development Courses</u>

The Chairperson presented the list of Employability Enhancement, Entrepreneurship Development and Skill Development Courses identified from the proposed R2019 curriculum to the members of BOS as follows and *the members of BOS resolved to approve and recommend the same to the Academic Council.*

7.1 Employability Enhancement Courses

S.No.	Course Code	Course Name
1.	19UCS107	Problem Solving and Python Programming
2.	19UCS110	Problem Solving and Python Programming Laboratory
3.	19UEN201	Communication Skills for Professionals
4.	19UGS532	Interpersonal Skills Laboratory
5.	19UGS631	Reasoning & Quantitative Aptitude
6.	19UGS632	Soft Skills Laboratory
7.	19UCE702	Estimation, Costing and Valuation Engineering
8.	19UCE608	Software Applications Laboratory
9.	19UCE707	Summer Internship

7.2 Entrepreneurship Development Courses

S.No.	Course Code	Course Name
1.	19UCE702	Estimation, Costing and Valuation Engineering
2.	19UCE608	Software Applications Laboratory
3.	19UCE607	Product Development Project
4.	19UCE804	Project Work
5.	19UCE903	Repair and Rehabilitation of Structures
6.	19UCE915	Building Construction Practice & Productivity
7.	19UCE909	Municipal Solid Waste Management
8.	19UCE919	Modern Surveying
9.	19UCE866	Practical Valuation
10.	19UCE867	Design of Multistorey Building – A Practical Approach

7.3 Skill Development Courses

S.No.	Course Code	Course Name
1.	19UCE211	Computer Aided Building Drawing
2.	19UCE307	Seminar
3.	19UCE608	Software Application Laboratory
4.	19UGS532	Interpersonal Skills Laboratory
5.	19UGM531	Creative Thinking & Innovation
6.	19UGS532	Soft Skills Laboratory
7.	19UCE608	Design and Product Development Project
8.	19UCE804	Project Work

8. Interdisciplinary Courses:

The Chairperson presented the Interdisciplinary courses in the proposed R2019 curriculum to the members of BOS.

Sl. No.	Course Name	Credits	Offering Department
1.	Instrumentation & Sensor Technologies for Civil Engineering Applications	3	Civil Engineering & Electronics Engineering
2.	Smart City Technologies	3	Civil Engineering & Computer Science Engineering
3.	Robotics in Civil Engineering	1	Civil Engineering & Mechanical Engineering
4.	Building Energy Audit	1	Civil Engineering & Electrical Engineering

The members of BOS resolved to approve and recommend the same for the UG program to the Academic Council.

9. Value Added Courses:

The Chairperson presented the Value Added Courses in the proposed R2019 curriculum to the members of BOS. *The members of BOS resolved to approve and recommend the same for the UG program to the Academic Council.*

Course Name	Offered by
Land surveying using Total Station	Ladder Survey Institute of Technology, Chennai
AutoCAD	CADD Centre
Revit Architecture	Hi-Tech CADD Centre
Google Sketch up	Hi-Tech CADD Centre
Survey Camp	Ladder Survey Institute of Technology, Chennai

10. <u>Suggestions for improving UG curriculum Regulation 2019</u>

Name of the Academic Member	Suggestion	Proposed Action
Dr.T.Sekar (AU Nominee) Professor, Dept of Civil Engineering, Anna University, Ramanathapuram.	Suggested that the Overall Credits for the program has to be increased on par with other institutions.	Can be considered after discussion in CPEC meeting.
	Suggested to reduce the credits in first semester and increase those in second semester. **(Dr.S.Nagan)**	Curriculum for First year has been already fixed by CPEC.
	Suggested to change the title of "Engineering Physics" as "Engineering Physics for Civil Engineering" in semester I.	
	Suggested to have proper evaluation of Summer Internship, with presentations and submission of reports.	Will be considered
	Suggested to rethink whether "Biology for Engineers" is required or not. **(Dr.P.Vincent)**	Provided as per AICTE model curriculum
	Suggested to have the same syllabus of "Disaster Management and Mitigation" in the new course „Disaster Preparedness & Planning in the VIII semester.	Will be considered while framing the syllabus
	Suggested to include friction and spring contents in any core courses, if not possible to add in Engineering Mechanics. **(Dr. S. Nagan)**	Will be considered while framing the syllabus
	Suggested to include "Survey Camp" in curriculum; if not it can be added in as a Value Added course, so that the students can have the practical field experience.	Can be provided as a Value added course
	Suggested not to remove structural dynamics from SDEE.. Suggested to keep the title as "Adv RCC Design & EE" but include topics of fundamentals of dynamics in it.	Will be considered while framing the syllabus
	Suggested to include "Finite Element analysis" as an elective subject	1 unit can be provided in Structural Analysis course

	Suggested to include "Design of scaffolding" as a one credit course.	
	Suggested to provide each lab course in the immediate next semester of theory course.	Can be considered
	Suggested to keep the credits as integer rather than in decimal.	Decimals have been given following AICTE Model curriculum.
Dr.R.Velkennedy Professor, Dept of Civil Engg, TCE, Madurai	Suggested to provide continuity in laboratory courses – Highway Laboratory shall be combined with other lab courses like soil or concrete, but should be in the same or immediately next semester of Highway Engineering theory course. **(Dr. S. Nagan)**	Can be Revised
	Suggested to add some physical activity courses in Induction Program like Yoga. Also programs using successful Civil Alumni will be more advantageous.	Will be considered.
	Suggested to split the course "Highway and Railway Engineering" and give two more core courses in Transportation Engineering.	Can be Revised.
	Suggested to include "Smart city Technologies" course as Elective subject.	Given as a Professional Core as per decision made in CPEC
Dr.S.Nagan Professor, Dept of Civil Engg, TCE, Madurai.	Suggested not to remove the complete content of the topic springs, its basics can be included in SOM.	Will be considered while framing the syllabus
	Suggested to include recent software for analysis and provide at least one software for drafting, one for design and one for management in the course „Software applications in CE".	Will be considered while framing the syllabus
Dr. P. Vincent, Professor, Dept of Civil Engg,	Suggested to introduce all designing concepts using MS-Excel and to be trained by industrial experts, for design courses	„Explore Excel" can be added as a Value Added course

MSEC, Sivakasi	Suggested to compare the units I and V of sequential courses so that the contents may not be repeated.	Will be considered while framing the syllabus
	Suggested to provide the latest updated edition of text books and give relevant books for each unit as reference books.	Will be considered while framing the syllabus
	Suggested to give 4-8 weeks Summer Internship program as suggested by AICTE.	Will be considered
Suggestions for the course "Introduction to Civil Engineering".		
Dr.T.Sekar **(AU Nominee)** Professor, Dept of Civil Engineering, Anna University, Ramanathapuram.	Suggested to remove the topic five-year plan in Unit I, since it is outdated.	Can be revised
	Suggested to give clear contents in unit II, in order to show the depth of the topics so that question setting will not be a problem. Let not any content be vague in the syllabus.	Can be revised
	Suggested to use the terms "Concepts & applications" instead of specifying it as „fundamentals only".	Can be revised
	Suggested to remove the names of software"s in Unit III and prescribe it as Civil Engineering software"s and applications.	Names of software need to be specified.
	Suggested to modify the first objective as „To study" instead of „To assess". **(Dr. S.Nagan)**	
Suggestions for the course "Computer Aided Building Drawing"		
Dr.T.Sekar **(AU Nominee)** Professor, Dept of Civil Engineering, Anna University, Ramanathapuram.	Suggested to use the word "drafting software" instead of AUTOCAD;	Will be implemented
	Suggested not to give a particular model of staircase; generalised word is appropriate.	Will be implemented
	Suggested not to repeat the words of „Preparation of plan, elevation and section" for each experiment instead generalise it and give numbers for individual experiments.	Will be implemented

PERCENTAGE OF CHANGE IN CURRICULUM

S.No	Name of the Course	% of Change
1.	19UCE302 Engineering Geology and Construction Materials	25
2.	19UCE303 Basics of Engineering Mechanics	30
3.	19UCE304 Water Supply Engineering	25
4.	19UCE306 Surveying	40
5.	19UCE308 Material Testing Laboratory	40
6.	19UCE309 Surveying Laboratory	40
7.	19UCE404 Waste water Engineering	30
8.	19UCE407 Water and Waste Water Laboratory	25
9.	19UCE601 Structural Analysis	20
10.	19UCE608 Software Application Laboratory	30
11.	19UCE702 Estimating and Costing	50
12.	19UCE703 Smart City Technologies	40

11. <u>Panel of Examiners</u>

The Chairperson presented the Panel of Faculty members for Valuation/Question Paper setting/Scrutiny/Practical Exam Examiners for approval **(Annexure IV).** T*he members of BOS approved and recommended the panel of External Faculty Members for the valuation and question paper setting for the UG program to the Academic Council.* The Chairperson thanked the members of BOS for their valuable suggestions in the curriculum and overall development of the department.

M.E. Structural Engineering Program

Dr.B.Jeyaprabha, Professor & PG Head, greeted the BOS committee and the following points were discussed in the meeting:

- PEOs, PSOs and POs
- Stake Holders Feedback
- Curriculum and Syllabi of Regulation2019
- Addition of new courses/topics
- Deletion of courses/topics
- Entrepreneurship, Employability and Skill Development Courses
- List of value-added courses
- Percentage of Change in R2019 Curriculum

12. PEOs, PSOs and POs

The PEOs, PSOs and PO statements for the PG program were presented by the PG Head *and the members of BOS resolved to approve and recommend the PEO Statements of the PG program to the Academic Council.*

Program Educational Objectives (PEO's)

Graduates of M.E. Structural Engineering program will

1. Apply basic principles of structural mechanics to achieve solutions for the real-life structural engineering problems. ***(Core Competence)***
2. Design and develop structural systems with a sense of ethics and professionalism for the benefit of industry as well as society. ***(Professionalism)***
3. Enhance the career through continuous learning to take up challenging structural engineering task and advanced research. ***(Lifelong Learning)***

Program Outcomes (PO's)

At the time of their graduation, students in the Structural Engineering program will be able to,

1. Apply the knowledge of science, mathematics, and engineering principles to solve complex structural engineering problems. ***(Scholarship of Knowledge)***
2. Identify, formulate and solve engineering problems in the domain of structural engineering field. ***(Problem Solving)***
3. Design and conduct experiments, analyse and interpret data, for development of research experiments. ***(Research Skill)***

4. Use different software tools for Analysis and Design of structural engineering domain. ***(Modern tool usage)***
5. Demonstrate the design documents and substantiate the technical reports to the peer group and public effectively. ***(Communication)***
6. Develop confidence for self-education and ability for life – long learning and research activities. ***(Lifelong Learning)***

Program Specific Outcomes (PSO's)

Structural Engineering graduates will,

- Excel in core areas of structural engineering and will be able to plan, analyze, design, execute and maintain structural engineering projects in a cost-effective manner without over exploitation of natural resources.

13. Stakeholders Feedback

PG Head presented the analysis of the stakeholders" feedback as listed below, regarding curriculum and syllabi of R2019 to all the members of board of studies. *The members gave suggestions analysing the possibility of incorporating the stakeholders' feedback while framing the syllabus for R2019.*

External Faculty	Feedback	Action taken
Dr.S.Arul Jayachandran, Professor, IIT Madras,	Suggested to include new limit state code 11384 in Design of Steel Concrete Composite Structures	• Code books were included
Dr. C. Rajasekaran Assistant Professor, National Institute of Technology Karnataka, Surathkal	• Include Sustainable Materials and Test & Detailed Quality Control in Advanced Concrete Technology	• Topics were included
Employer	**Feedback**	**Action taken**
Mr.Ramasamy, Rtd.Work inspector PWD	• Include the new course structural health monitoring • Teach Tekla software • Include Earthquake Analysis and Design	• New professional elective course structural health monitoring was introduced • Value added Course • Already present in both R2015 and R2019 curriculum.
Mr.Ravikumar Gudipali, Senior manager, TATA consulting Engineers limited	• Include nonlinear analysis • Teach Tekla software • Concentrate on ductile detailing also.	• Already present in both R2015 and R2019 curriculum • Value added Course • Included in Structural Design lab

Internal Faculty	Feedback	Action taken
Dr.B.Jeyaprabha, Professor	• Include ACI and EURO code design in Design of Advanced Concrete Structures • Include the course Research Methodology & IPR.	• ACI and EURO code design principles were included • Research Methodology & IPR course was included as Mandatory
Ms.K.Dhivya, Assistant Professor	• Major project work of PG program can be done for 1 year duration	• Dissertation phase I & II
Mr.P.Rajeswaran, Assistant Professor	• Exclusive lab for concrete mix design • Include special concrete mix design	• Advanced Concrete Laboratory was introduced and the special concrete mix design were included
Mr.R.Vijayan, Assistant Professor (SG)	• Include Special Topics in Structural Dynamics	• Special topics included as follows: Dynamic Effects of Wind Loading, Moving Loads, Vibrations caused by Traffic, Blasting and Pile Driving, Foundations for Industrial Machinery.(Unit V) • Topics were taken from AICTE model Curriculum
Ms.SaraBanu, Assistant Professor	• Include Theory and Application of cement composites.	• Theory and Application of cement composites was introduced as new professional elective
Ms.A.Subalakshmi, Assistant Professor	• Use ANSYS to perform dynamic analysis of high rise building	• Included in Computing in Structures Laboratory
Mr.Manikandan, Assistant Professor	• Include Fracture Mechanics • Delete laminate structure topic from Mechanics of Composite Materials.	• Fracture Mechanics of structures were already present in both R2015 and R2019 curriculum • As per the suggestion, laminate structure topic from Mechanics of Composite Materials need not be deleted, since it is important.
Alumni	**Feedback**	**Action taken**
Mr.Karthikeyan, Alumni (2017-2019 Batch)	• Include mini project which will be useful to prepare for the Major project work	• As per the suggestion, mini project has been included in second semester of R2019.
Student	**Feedback**	**Action taken**
Kalidass S, II year M.E Student	Rrecommended to include Structural Design Lab (Staad Pro, Ansys, Mat Lab) to get more practical knowledge.	• All were included in Structural Design Lab in second semester of R2019

Karthi S, II year M.E Student	• Include Research methodology which will be useful for final year project.	• Research methodology was included in first semester of R2019 which is mandatory. • AICTE Mandatory Course
Raghav S, II year M.E Student	• Include special concrete mix design using waste materials which will be useful for research purpose.	• Special concrete mix designs were included Advance concrete lab in first semester of R2019. • ASCE technology forecast also recommends
AjeethPandian, II year M.E Student	• Recommended to give practice for conference and research paper presentation which will be useful in conference presentation.	• English for Research paper writing course was included in second semester of R2019.
Sivaraman K, II year M.E Student	• Include non-destructive testing field practice classes	• Field testing of Nondestructive testing experiments will be carried out
Mohamed Idris A, II year M.E Student	• Include other country codal provision for foreign job opportunities	• Introduction to ACI and EURO code design principles were included in the subject Design of Advanced Concrete Structures.
Department Advisory Board member	**Feedback**	**Action taken**
Mr.Baskaran Professor/TCE	• Offer E-TABS as value added course. • For ACI and EURO code designs conduct value added course. • Include Geo polymer concrete mix design	• Will be conducted as value added course • The topics were included as introduction to ACI and EURO codes in Advanced concrete design • Geo polymer Mix design was included in Advanced Concrete Technology
Mr.Sarankumar / Employer	• Insisted practical oriented method of teaching • Need more Industry interaction	• Will be arranged for more industrial visits to construction sites • Guest lecture, Field visit, Technical meets and webinars will be arranged

The board approved the incorporation of feedback in curriculum and syllabi of regulation 2019.

14. Curriculum and Syllabi of Regulation2019

PG Head presented the Curriculum and Syllabi of Regulation2019 (given in Annexure VI), in which the stake holders feedback was also considered *and the members of BOS resolved to approve and recommend the Regulation 2019 Curriculum and Syllabi of the PG program to the Academic Council.*

15. Addition of new courses / topics:

15.1. **Addition of new courses:** PG Head presented the following list of newly introduced Courses in the R2019 curriculum and those courses were *resolved to approve and recommend by the members of BOS to the Academic Council.*

Course Code	Course Title
Professional Electives	
19PSE523	Theory and Applications of Cement Composites
19PSE524	Structural Health Monitoring
19PSE525	Design of Formwork
Practical Courses	
19PSE103	Computing in Structures
19PSE104	Advanced Concrete Laboratory
19PSE203	Structural Design Laboratory
19PSE204	Structural Testing Laboratory
19PSE205	Mini Project with Seminar
Open Elective	
19PSE605	Smart City Technologies
Mandatory Credit Course	
19PGM701	Research Methodology and IPR

16. **Addition of new topics:** PG Head presented new topics included for the following courses in the R2019 curriculum *and the members of BOS resolved to approve and recommend the same of the PG program to the Academic Council.*

S.No	Name of the Course	Change of Topic/ Unit
1.	Design of Advanced Concrete Structures 19PSE101	Included Introduction to ACI & Euro codes
2.	Theory of Elasticity And Plasticity	Included Saint venant‟s Method (Unit III)
		Von Mises yield criterion, Tresca yield criterion (Unit IV)

	19PSE102	
3.	Structural Dynamics 19PSE202	Included 2 New Units Unit IV - Numerical Solution Unit V - Special Topics In Structural Dynamics(concepts Only)
4.	Advanced Concrete Technology 19PSE506	Included 2 New Units Unit II - Microstructure of Mortar And Concrete Unit IV - Nondestructive Testing of Concrete
		Unit III - Mix Design Included Special Concrete Mix Design
		Unit V Neo concrete latest special concretes topics were included

17. Deletion of Courses/ Topics

17.1. **Deletion of Courses**: PG Head, presented the following list of Courses deleted from professional electives in R2015 curriculum and those were approved by the members of board of studies.

Course Code	Course Title
Professional Electives	
15PSE502	Forensic Engineering and Rehabilitation of Structures
15PSE508	Wind and Cyclone Effects on Structures
15PSE511	Design of Shell and Spatial Structures
15PSE518	Advanced Construction Technology
15PSE521	Remote Sensing Techniques and GIS
15PSE523	Durability of Concrete Structures

17.2. **Deletion of topics:** PG Head, presented the deleted topics as follows in the course "Advanced concrete Technology 19PSE506" of R2015 curriculum and those were approved the members of board of studies.

S.No	Topics Deleted
1.	Unit II Tests on Concrete
2.	Unit V Concreting methods

18. Employability Enhancement, Entrepreneurship Development and Skill Development Courses

PG Head presented the following Employability Enhancement, Entrepreneurship Development and Skill Development Courses as follows and those were approved by the members of board of studies.

18.1 Employability Enhancement Courses

S.No.	Course Code	Course Name
1.	19PSE106	Computing in Structures
2.	19PSE101	Design of Advanced Concrete Structures
3.	19PSE207	Mini Project with Seminar
4.	19PSE107	Advanced Concrete Laboratory
5.	19PSE802	English for Research Paper Writing
6.	19PSE205	Structural Design Laboratory
7.	19PSE305	Dissertation Phase I
8.	19PSE401	Dissertation Phase II

18.2 Entrepreneurship Development Courses

S.No.	Course Code	Course Name
1.	19PSE106	Computing in Structures
2.	19PSE205	Structural Design Laboratory
3.	19PSE101	Design of Advanced Concrete Structures
4.	19PSE107	Advanced Concrete Laboratory

18.3 Skill Development Courses

S.No.	Course Code	Course Name
1.	19PSE106	Computing in Structures
2.	19PSE107	Advanced Concrete Laboratory
3.	19PSE802	English for Research Paper Writing
4.	19PSE205	Structural Design Laboratory
5.	19PSE206	Structural Testing Laboratory

19. Value Added Courses

PG Head, presented the list of value added courses planned *and the members of BOS resolved to approve and recommend the same of the PG program to the Academic Council.*

1. TEKLA Software for Structural connections.
2. ETABS Software for Structural Analysis and Design.

20. Percentage of Change in curriculum:

PG Head, discussed about the percentage of change in R2019 curriculum. The same was approved by the members of board of studies.

Course Code	Name of the Course	Details of Revision*	Percentage of Change
19PSE101	Design of Advanced Concrete Structures	**Topics Added:** ▪ Introduction to ACI & Euro Codes in Unit 1 Design Philosophy.	**5%**
		▪ Expansion and construction joints in buildings in Unit V Ductile Detailing.	**5%**
19PSE102	Theory of Elasticity and Plasticity	**Topics Added:** ▪ Strain hardening ▪ Idealized stress strain curve - criterion of yielding ▪ Von Mises yield criterion, ▪ Tresca yield criterion	**10%**
19PSE104	Advanced Concrete Laboratory	**Syllabus Revision Carried Out:** ▪ Develop design charts for concrete mix design using spread sheets. ▪ Concrete Mix Design of Special Concrete - Fiber Reinforced concrete – FRC & Geopolymer Concrete.	**10%**

Suggestion regarding BOS meeting:

1. University nominee Dr.T.Sekar, Professor / University College of Engineering, Ramnad, appreciated the inclusion of new courses like Design of form work and Structural Health Monitoring.
2. Dr.S.Nagan, Professor/TCE, prefers to include some software"s in "Coding development" and "Algorithm development" for students to acquire better software knowledge for future perspective.
3. He also suggested inclusion of "Geopolymer concrete mix design" in Advanced Concrete laboratory and also in theory course, since it will be very useful as per technology forecasting.

4. He also insisted the usage of "Spread sheets" in isolated and combined footing design.

5. Dr.P.Vincent, Professor/MEPCO recommended to publish the research papers of PG students in "SCOPUS" and "Sci Index" journals.

Dr..B.Jeyaprabha, Professor & Head/PG, thanked the members for their contribution and valuable suggestions in various aspects of M.E. Structural Engineering Program under Autonomous regulation 2019.

Chairperson

Board of Studies / Civil Engineering

Chairperson
Board of Studies
Civil Engineering
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