



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Date: 28.06.2022

Minutes of Board of Studies Meeting

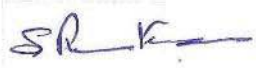


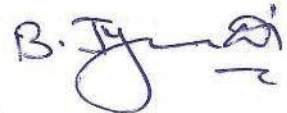


Board of Studies (BoS) meeting of B.Tech.,CSE – Artificial Intelligence & Machine Learning programme was conducted on 28.06.2022 in blended mode from 10.00AM to 11.30AM. (Physical meeting : CSE Conference Hall, Third floor, JC Bose Block, VFSTR and virtual meeting link : https://us02web.zoom.us/j/6400485257?pwd=jN9EMqLRUorw6gc_Z3T5gmA-QP1BvNQ)

Agenda of the BoS Meeting:

1. Discussions and approval of R22 B.Tech. CSE – Artificial Intelligence & Machine Learning Program Structure.
2. Discussion on revision of R22 B.Tech. CSE – Artificial Intelligence & Machine Learning course contents.
3. Any other point with the permission of Chair.

The following members were present either thorough offline or online.

S.No.	Name and designation of the Member	Position	Signature
1	Dr. Venkatesulu Dondeti Professor & Head, Department of CSE, VFSTR Deemed to be University	Chair Person	
2	Prof. R.V.B.Subramanyam Professor Department of CSE, NIT Warangal	External Member (Academic)	Attended Online
3	Prof. C.R.Rao Professor SCIS, University of Hyderabad	External Member (Academic)	Attended online
4	Dr.B.Venkata Ramana Assoc. Professor & HoD Department of CSE, IIT Tirupathi	External Member (Academic)	Attended Online
5	Dr. Nagesh Bhattu Sristy Asst. Professor Department of CSE, NIT AP	External Member (Academic)	Attended Online
6	Dr. Nirupama Bhat Professor, Department of CSE,	Internal Member	

7	VFSTR Deemed to be University Dr. S V Phani Kumar Assoc. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member	
8	Dr. Mainak Biswas Assoc. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member	
9	Dr. U. Srilakshmi Asst. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member	
10	Mrs. B. Jyostna Devi Asst. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member	
11	Dr. D. Radha Rani Asst. Professor, Department of CSE, VFSTR Deemed to be University	Invited Member (Nominee – Dean R&D)	
12	Mr. V Ramakrishna Sajja Asst. Professor, Department of CSE, VFSTR Deemed to be University	Secretary (Ex-officio)	

The following members have taken leave of absence:

S.No.	Name and designation of the Member	Position
1	Dr.V. Radha Assoc. Professor IDRBT, Hyderabad	External Member (Academic)
2	Dr.M.Dinesh Research Scientist Philips, Bangalore	External Member (Industry)

Chairperson Dr. Venkatesulu Dondeti, Professor and Head, department of CSE, VFSTR opened the meeting by welcoming and introducing the external members, invitees to the internal members. Chairperson presented about the *NEP 2020 Compliant Regulation - R22* which emphasis on creating *learning centric* (continuous learning and continuous assessment model), offering B.Tech., B.Tech. with Honours/ Research Honours/ Minor/ Add-on Diploma, *Dual degree* (B.Tech. + M.Tech./MBA, or M.Tech. + Ph.D.), providing multiple entry and multiple exits.

The following points were discussed in the BoS meeting:

1. Regulation R22.
2. Curriculum structure with credits, credits distribution.
3. 2 Modules instead of 5 units.
4. Assessment methods (Formative & Summative).
5. Grading Schemes.
6. Electives and streams/pools.
7. Minor / Honor courses.

The following resolutions made after the discussion:

1. Dr.S. V. Phani Kumar has initiated the presentation on R22 CSE – AI&ML Curriculum. All the BoS members have approved the curriculum.
2. Dr. C. R. Rao has suggested to include Introduction to data Science as one unit in the course “Data Handling & Visualization” to get more idea about various data. Committee accepted the comment, and it has been considered.
3. Dr. R.V. Subramanyam suggested to move “Computer Vision” course from III year I semester to electives stream as prerequisite is not covered in earlier semesters. Subsequently the following changes are taken place.
 - a. Movement of “Deep Learning” course from III year II semester to III year I semester.
 - b. Movement of “Reinforcement Learning” course from IV year II semester to III year II semester.Committee accepted the comment, and it has been considered.
4. Dr. C. R. Rao has suggested to keep “Knowledge Representation & Reasoning” course in IV year I semester in place of “Reinforcement Learning” due to the vacancy for one core course. Committee accepted the comment, and it has been considered.
5. Dr. R.V.Subramanyam has suggested to keep “Distributed Systems” in place of “Mobile Applications Development” offered in III year II semester as it is specialization specific course. Committee accepted the comment, and it has been considered.
6. Dr. C. R. Rao asked about the necessity of basic courses floated in elective streams. Dr. S.V.Phani Kumar has explained about the necessity of those courses in keeping view of GATE and employability opportunities.
7. Dr. C. R. Rao has mentioned that no minor courses should be in honors courses. Give more emphasis for skill oriented courses in minor specializations. Committee accepted the comment, and it has been considered.
8. Dr. C. R. Rao has suggested to offer electives, minors and honor courses semester wise and as a pool. Committee accepted the comment, and it has been considered.
9. Dr. C. R. Rao asked to take approval from industry persons for “Practice in Computing” minor specialization. Dr. Venkatesulu Dondeti told that Dr.Dinesh is one of the BoS member and approval will be taken from him through offline.
10. Dr. C. R. Rao has suggested to include the courses like “Inter personal relations” also in “Practice in Computing” minor specialization. Committee accepted the comment, and it has been considered.

11. Dr. C. Rao has suggested to include the courses like “3D Printing”, “Animation”, “Gaining”, “Virtual Reality” etc under honors specialization which are more popular in industry.
Committee accepted the comment, and it has been considered.
12. Dr.C.R.Rao has advised to be careful in awarding honors degree for the students who will complete honors specialization in “Practices in Computing” & “Branch-Specific”.
Dr. Venkatesulu Dondeti told that enough care will be taken it has been considered.
13. BoS Members approved the revised regulations, curriculum structure, syllabus of B.Tech., CSE – Artificial Intelligence & Machine Learning programmes and it follows based on the NEP 2020. Curriculum structure is provided in Appendix-I.
14. Major restructuring has taken place in the curriculum which is oriented towards continuous learning and assessment based on Module structure.
15. Major reformation has taken place in the curriculum by offering Honours/Specialization degree or Minor degree thorough 20 more credits with additional courses.
16. The curriculum is encompassing the courses that enable employability or entrepreneurship or skill development, provided in Appendix- II.
17. The significant changes are made in the content of all courses and hence the courses are considered as new courses provided in Appendix- III.
18. Total average percentage of syllabus revised was 40% compared to previous curriculum

Based on the suggestions given by the members, the Chairperson of BoS told that, those fruitful suggestions would be incorporated appropriately in the curriculum and syllabi of the regulation R22 and this will be recommended to the Academic Council of VFSTR for the approval.

There being no further points for discussion, the Chairperson thanks all the external, internal, invited members and announced that the meeting was adjourned.


Member Secretary


Chairperson



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

APPENDIX I

B.Tech CSE – Artificial Intelligence & Machine Learning Programme : Curriculum Structure

I Year I Semester

Sl. No.	Course Title	L	T	P	C	Course Category
1	Linear Algebra and Ordinary Differential Equations	3	2	0	4	Basic Sciences
2	Semiconductor Physics and Electromagnetics	2	0	2	3	Basic Sciences
3	Basics of Electrical and Electronics Engineering	2	0	2	3	Basic Engineering
4	IT Workshop and Tools	0	2	4	3	Basic Engineering
5	Programming in C	2	0	4	4	Basic Engineering
6	English Proficiency and Communication Skills	0	0	2	1	Humanities
7	Physical Fitness, Sports and Games – I	0	0	3	1	Binary grade
8	Constitution of India	0	2	0	1	Binary grade
	Total	9	6	17	20	
	Total		32		20	

I Year II Semester

Sl. No.	Course Title	L	T	P	C	Course Category
1	Advanced Engineering Mathematics	3	2	0	4	Basic Sciences
2	Discrete Mathematical Structures	2	2	0	3	Basic science
3	Engineering Graphics	2	0	2	3	Basic Engineering
4	Basic Coding Competency	0	1	3	2	Basic Engineering
5	Technical English Communication	2	0	2	3	Humanities
6	Python Programming	2	0	2	3	Professional core
7	Physical Fitness, Sports and Games – II	0	0	3	1	Binary grade
8	Orientation Session	0	0	6	3	Binary grade
	Total	11	5	18	22	
	Total		34		22	

II Year I Semester

Sl. No.	Course Title	L	T	P	C	Course Category
1	Probability Theory and Statistics for Machine Learning	3	0	2	4	Basic Sciences
2	Management Science	2	2	0	3	Humanities
3	Data Structures using Python	2	2	2	4	Basic Engineering
4	Artificial Intelligence	2	2	2	4	Professional core
5	Digital Logic and Computer Organization	2	2	0	3	Professional core
6	Database Management Systems	2	2	2	4	Professional core
7	Environmental Studies	1	1	0	1	Basic Sciences
8	Life Skills - I	0	0	2	1	Binary grade
9	NCC/ NSS/ SAC/ E-cell/ Student Mentoring/ Social activities/ Publication	0	0	0	1	Binary grade
	Total	14	11	10	24	
	Total		35		25	

II Year II Semester

Sl. No.	Course Title	L	T	P	C	Course Category
1	Advanced Coding Competency	0	0	2	1	Basic Engineering
2	Professional Communication	0	0	2	1	Humanities
3	Design and Analysis of Algorithms using Python	2	2	2	4	Professional core
4	Machine Learning	3	0	2	4	Professional core
5	Object Oriented Programming through JAVA	2	0	4	4	Professional core
6	Operating Systems	2	0	2	3	Professional core
7	Life Skills – II	0	0	2	1	Binary grade
8	Open Elective – 1	3	0	0	3	Open Elective
	Total	12	2	16	21	
9	Minor / Honors – 1	3	0	2	4	
	Total	15	2	18	0	
	Total		35		25	

III Year I Semester

Sl. No.	Course Title	L	T	P	C	Course Category
1	Soft Skills Laboratory	0	0	2	1	Humanities
2	Deep Learning	3	0	2	4	Professional core
3	Computer Networks	3	0	2	4	Professional core
4	Formal Languages and Automata Theory	2	2	0	3	Professional core
5	Inter-Disciplinary Project – Phase I	0	0	2	0	Project
6	Industry Interface Course	1	0	0	1	Binary Grades
7	Department Elective – 1	3	0	2	4	Department Elective
8	Open Elective – 2	3	0	0	3	Open Elective
9	NCC/ NSS/ SAC/ E-cell/ Student Mentoring/ Social activities/ Publication	0	0	0	1	Binary grade
	Total	15	2	10	21	
10	Minor / Honors – 2	3	0	2	4	
	Total	18	2	12	25	
	Total		32		25	

III Year II Semester

Sl. No.	Course Title	L	T	P	C	Course Category
1	Quantitative Aptitude and Logical Reasoning	1	2	0	2	Humanities
2	Fundamentals of Image Processing	2	0	2	3	Professional core
3	Reinforcement Learning	2	2	0	3	Professional core
4	Web Technologies	2	0	4	4	Professional core
5	Inter-Disciplinary Project – Phase II	0	0	2	2	Project
6	Department Elective – 2	3	0	2	4	Department Elective
7	Open Elective – 3	3	0	0	3	Open Elective
	Total	13	4	10	21	
8	Minor / Honors – 3	3	0	2	4	
	Total	16	4	12	25	
	Total		32		25	

IV Year I Semester

Sl. No.	Course Title	L	T	P	C	Course Category
1	Knowledge Representation and Reasoning	2	2	0	3	Professional core
2	Text Mining	3	0	2	4	Professional core
3	Big Data Analytics	3	0	2	4	Professional core
4	Department Elective – 3	3	0	2	4	Department Elective
5	Department Elective – 4	3	0	2	4	Department Elective
	Total	14	2	8	19	
6	Minor / Honors – 4	3	0	2	4	
	Total	17	2	10	23	
	Total	29			23	

IV Year II Semester

Sl. No.	Course Title	L	T	P	C	Course Category
1	Project Work	0	2	22	12	Project
	Total	0	2	22	12	
2	Minor / Honors – 5 (for project)	0	2	6	4	
	Total	0	4	28	16	
	Total	32			16	

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Department Electives

Sl. No.	Course Title	L	T	P	C
1	Cloud Computing	3	0	2	4
2	Compiler Design	3	2	0	4
3	Computer Vision	3	0	2	4
4	Cryptography & Network Security	3	0	2	4
5	Data Science Using Python	2	2	2	4
6	Data Warehousing and Data Mining	3	0	2	4
7	Nature Inspired Computing Methods	3	2	0	4
8	Soft Computing	3	2	0	4
9	Introduction to Software Engineering	3	0	2	4
10	Advanced Data Structures	2	2	2	4
11	Advanced JAVA Programming	2	2	2	4
12	Computer Graphics	2	2	2	4
13	Internet of Things	3	0	2	4
14	Mobile Application Development	2	0	4	4

HONOURS

Sl.No	Course Title	L	T	P	C
1	Optimization Techniques	3	2	0	4
2	Evolutionary Computing	3	2	0	4
3	Kernel Methods for Pattern Analysis	3	0	2	4
4	Parallel and Distributed Computing	3	2	0	4
5	Capstone Project	0	2	6	4

A. Venkatesh

MINORS

Artificial Intelligence & Machine Learning Stream

Sl.No	Course Title	L	T	P	C
1	Artificial Intelligence	2	2	2	4
2	Computer Vision	3	0	2	4
3	Data Handling & Visualization	2	2	2	4
4	Deep Learning	3	0	2	4
5	Digital Image Processing	2	2	2	4
6	Machine Learning	3	0	2	4
7	Introduction to Python Programming	2	2	2	4
8	Text Mining	3	0	2	4
9	Industry 5.0	3	2	0	4
10	Capstone Project	0	2	6	4


Chairperson



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

APPENDIX II

List of Courses that Enables Employability or Entrepreneurship or Skill Development

Year/ Semester	Course Title	Course Category
I Year I Semester	Linear Algebra and Ordinary Differential Equations	Skill development
I Year I Semester	Semiconductor Physics & Electromagnetics	Skill development
I Year I Semester	Basic of Electrical and Electronics Engineering	Skill development
I Year I Semester	IT Workshop and Tools	Skill development
I Year I Semester	Programming in C	Employability
I Year I Semester	English Proficiency and Communication Skills	Skill development
I Year I Semester	Physical Fitness, Sports & Games – I	Skill development
I Year I Semester	Constitution of India	Skill development
I Year II Semester	Advanced Engineering Mathematics	Skill development
I Year II Semester	Discrete Mathematical Structures	Skill development
I Year II Semester	Engineering Graphics	Skill development
I Year II Semester	Basic Coding Competency	Employability
I Year II Semester	Technical English Communication	Employability
I Year II Semester	Python Programming	Employability
I Year II Semester	Physical Fitness, Sports & Games – II	Skill development
I Year II Semester	Orientation Session	Skill development
II Year I Semester	Probability & Statistics for ML	Skill development
II Year I Semester	Data Structures	Employability
II Year I Semester	Management Science	Entrepreneurship
II Year I Semester	Artificial Intelligence	Employability
II Year I Semester	Digital Logic and Computer Organization	Skill development
II Year I Semester	Database Management Systems	Employability
II Year I Semester	Environmental Studies	Skill development
II Year I Semester	Life Skills	Skill development
II Year II Semester	Advanced Coding Competency	Employability
II Year II Semester	Professional Communication	Employability
II Year II Semester	Design and Analysis of Algorithms	Employability
II Year II Semester	Operating Systems	Skill development
II Year II Semester	Object Oriented Programming through JAVA	Employability
II Year II Semester	Machine Learning	Employability
II Year II Semester	Life Skills	Skill development

III Year I Semester	Soft Skills Lab	Employability
III Year I Semester	Deep Learning	Skill development
III Year I Semester	Computer Networks	Skill development
III Year I Semester	Formal Languages and Automata Theory	Skill development
III Year I Semester	Industry interface course (Modular course)	Employability
III Year I Semester	Inter-disciplinary Project – Phase I	Employability
III Year II Semester	Quantitative Aptitude & Logical Reasoning	Skill development
III Year II Semester	Reinforcement Learning	Skill development
III Year II Semester	Fundamentals of Image Processing	Skill development
III Year II Semester	Web Technologies	Employability
III Year II Semester	Inter-disciplinary Project – Phase II	Employability
IV Year I Semester	Text Mining	Skill development
IV Year I Semester	Big Data Analytics	Employability
IV Year I Semester	Knowledge Representation and Reasoning	Skill development
IV Year II Semester	Project Work	Employability
Department Elective	Compiler Design	Skill development
Department Elective	Computer Graphics	Skill development
Department Elective	Data Handling & Visualization	Employability
Department Elective	Mobile Application Development	Employability
Department Elective	Advanced Data Structures	Employability
Department Elective	Software Engineering	Employability
Department Elective	Data Mining Techniques	Skill development
Department Elective	Soft Computing	Skill development
Department Elective	Cloud Computing	Employability
Department Elective	Cryptography & Network Security	Skill development
Department Elective	Nature Inspired Computing Methods	Skill development
Department Elective	Computer Vision	Skill development
Department Elective	Internet of Things	Employability
Honours	Optimization Techniques	Skill development
Honours	Evolutionary Computing	Skill development
Honours	Kernel Methods for Pattern Analysis	Skill development
Honours	Parallel and Distributed Computing	Skill development


Chairperson



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

APPENDIX III

List of New Courses in the R22 Curriculum

Year/ Semester	Course Title
I Year I Semester	Linear Algebra and Ordinary Differential Equations
I Year I Semester	Semiconductor Physics & Electromagnetics
I Year I Semester	Basic of Electrical and Electronics Engineering
I Year I Semester	IT Workshop and Tools
I Year I Semester	Programming in C
I Year I Semester	English Proficiency and Communication Skills
I Year I Semester	Physical Fitness, Sports & Games – I
I Year I Semester	Constitution of India
I Year II Semester	Advanced Engineering Mathematics
I Year II Semester	Discrete Mathematical Structures
I Year II Semester	Engineering Graphics
I Year II Semester	Basic Coding Competency
I Year II Semester	Technical English Communication
I Year II Semester	Python Programming
I Year II Semester	Physical Fitness, Sports & Games – II
I Year II Semester	Orientation Session
II Year I Semester	Probability & Statistics for ML
II Year I Semester	Data Structures
II Year I Semester	Management Science
II Year I Semester	Artificial Intelligence
II Year I Semester	Digital Logic and Computer Organization
II Year I Semester	Database Management Systems
II Year I Semester	Environmental Studies
II Year I Semester	Life Skills
II Year II Semester	Advanced Coding Competency
II Year II Semester	Professional Communication
II Year II Semester	Design and Analysis of Algorithms
II Year II Semester	Operating Systems
II Year II Semester	Object Oriented Programming through JAVA
II Year II Semester	Machine Learning
II Year II Semester	Life Skills

III Year I Semester	Soft Skills Lab
III Year I Semester	Deep Learning
III Year I Semester	Computer Networks
III Year I Semester	Formal Languages and Automata Theory
III Year I Semester	Industry interface course (Modular course)
III Year I Semester	Inter-disciplinary Project – Phase I
III Year II Semester	Quantitative Aptitude & Logical Reasoning
III Year II Semester	Reinforcement Learning
III Year II Semester	Fundamentals of Image Processing
III Year II Semester	Web Technologies
III Year II Semester	Inter-disciplinary Project – Phase II
IV Year I Semester	Text Mining
IV Year I Semester	Big Data Analytics
IV Year I Semester	Knowledge Representation and Reasoning
IV Year II Semester	Project Work
Department Elective	Compiler Design
Department Elective	Computer Graphics
Department Elective	Data Handling & Visualization
Department Elective	Mobile Application Development
Department Elective	Advanced Data Structures
Department Elective	Software Engineering
Department Elective	Data Mining Techniques
Department Elective	Soft Computing
Department Elective	Cloud Computing
Department Elective	Cryptography & Network Security
Department Elective	Nature Inspired Computing Methods
Department Elective	Computer Vision
Department Elective	Internet of Things
Honours	Optimization Techniques
Honours	Evolutionary Computing
Honours	Kernel Methods for Pattern Analysis
Honours	Parallel and Distributed Computing



Chairperson

