VIGNAN'S
Foundation for Science, Technology & Research
(Deemed to be University)
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VIGNAN'S FOUNDATION FOR SCIENCE, TECHNOLOGY AND RESEARCH

Department of Advanced Computer Science & Engineering

Date: 28.11.2024

Minutes of Board of Studies Meeting

Board of Studies (BoS) meeting of B.Sc. (Data Science) Programme was conducted on 23.11.2024, from 02:00 PM in blended mode. (Physical meeting: N601, Nagarjuna Block, VFSTR and virtual meeting link: https://us06web.zoom.us/j/87094421744?pwd=56oAzuVbKHcPlgLhhZwoy7O2eAcarF.1)

Agenda of the BoS Meeting:

1. Review and finalize the proposed course structure
2. Discussion on Course contents.
3. Discussion on L-T- P-C structure of various courses.
4. Discussion on addition of the department electives, open electives
5. Any other points based on the requirements with the permission of Chair.

The following members were present either thorough offline or online:

S.No	Name of the Member	Designation and Affiliation	Role	Signature
1	Dr. D Radha Rani	Associate Professor & Head, Department of ACSE, VFSTR Deemed to be University	Chair Person	
2	Prof. J. Balasubramaniam	Professor, Department of Mathematics, IIIT, Hyderabad	External Member (Academia)	online
3	Prof. R.B.V. Subramanyam	Professor, Department of CSE, NIT, Warangal	External Member (Academia)	online
4	Prof. P Tirupathi Rao	Dean & Professor, Department of Statistics, Pondicherry Central University Kala pet, Puducherry	External Member (Academia)	online
5	Dr Vinay Kumar N	Standard Chartered, AIML delivery Lead	External Member (Industry)	online
6	Dr. Venkatesulu Dondeti	Add. Dean & Professor, Department of ACSE, VFSTR Deemed to be University	Invited Member	

7	Dr. B Jyostna Devi	Associate Professor, Department of ACSE, VFSTR Deemed to be University	Invited Member (Nominee – School Dean)	
8	Dr U V Manoj Kumar	Assistant Professor, Department of Mathematics & Statistics, VFSTR Deemed to be University	Invited Member	
9	Dr Jawad Ahmad Dar	Assistant Professor, Department of ACSE, VFSTR Deemed to be University	Invited Member (Nominee – Dean R&D)	
10	Dr K Kalyani	Assistant Professor, Department of Mathematics & Statistics, VFSTR Deemed to be University	Invited Member	
11	Ms S Radharani	Assistant Professor, Department of ACSE, VFSTR Deemed to be University	Member Secretary (Ex-officio)	

Chairperson Dr. D. Radha Rani, Associate Professor and Head, Department of ACSE, VFSTR initiated the meeting by welcoming and introducing the external members, invitees to the internal members and presented program curriculum along with course content to the board.

The following points were discussed in the BoS meeting:

1. Reviewed and finalized the course structure
2. Reviewed Course contents.
3. Discussed on L-T- P-C structure of various courses.
4. Discussed on addition of the department electives, open electives

The following resolutions are incorporated after the discussion:

1. Chairperson Dr. D. Radha Rani, Associate Professor and Head, Department of ACSE has initiated the presentation and presented the proposed draft version of B.Sc. Data Science Curriculum. The External Board members expressed their opinion that the overall course structure of the program and the content of the courses are well-designed and are sufficient for the program at under graduate level. They provided a few suggestions to further improve the quality of the curriculum.
2. Prof. J. Balasubramaniam suggested to Introduce Machine Learning immediately after the 3rd semester to ensure continuity with foundational courses like Probability, Linear Algebra, and Optimization.
3. Dr Vinay Kumar N suggested to Splitting Machine Learning into Two Courses, Introduce Basic Machine Learning in the 2nd year, 2nd semester and offer Advanced Machine Learning in a subsequent semester. This approach allows for gradual learning and deeper understanding of the subject.
4. Prof. J. Balasubramaniam suggested to Replace either Data Mining or Design and Analysis of Algorithms with Machine Learning as a core course in the 2nd year, 2nd

semester. This ensures a smooth transition into Machine Learning and strengthens the overall data science focus in the curriculum.

5. Prof. J. Balasubramaniam suggested to Optimization techniques should be made a key focus of the curriculum, not left as an optional subject. This is essential for building strong problem-solving capabilities in students.
6. Dr Vinay Kumar N suggested to Introduce an Introduction to Generative AI as an elective. This will expose students to cutting-edge AI technologies and trends. And also add NLP and Computer Vision as electives in the curriculum to cover key areas of Data Science and AI, beneficial for students pursuing careers in research or industry.
7. The inclusion of real-world projects in these areas could further strengthen the connection between theory and application, preparing students for internships or industry roles.
8. There was an implied suggestion to integrate more practical projects into the curriculum that align with the core concepts of Data Science, Machine Learning, and AI. This would not only give students hands-on experience but also prepare them for the challenges they will face in their internships or final-year projects.

Based on the suggestions given by the members, the Chairperson of BoS told that, these fruitful suggestions would be incorporated in the curriculum of B.Sc. (Data Science) Program.

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

VIGNAN'S FOUNDATION FOR SCIENCE, TECHNOLOGY AND RESEARCH

Program: B.Sc. (Data Science)

Regulation: R24

CURRICULUM STRUCTURE

I Year I Semester

Sl. No.	Course Code	Course Title	L	T	P	C	Course Category
1		Elementary Mathematics	3	2	0	4	Basic Sciences
2		Statistics for Data Science – 1	3	0	2	4	Basic Sciences
3		Environmental Science	0	1	1	1	Basic Sciences
4		Python Programming	2	0	4	4	Basic Engineering
5		IT Tools	0	0	2	1	Basic Engineering
6		Technical English Communication	0	0	4	2	Humanities
7		Constitution of India	0	2	0	1	Audit Course
8		Sports and Physical Fitness/ NCC/NSS	0	0	3	1	Audit Course
9		Orientation Session	1	4	0	3	Audit Course
		Total	**9**	**9**	**16**	**21**	
		Total		**34**		**21**	

L=Lecture; T= Tutorial; P= Practical; C=Credits

I Year II Semester

Sl. No.	Course Code	Course Title	L	T	P	C	Course Category
1		Linear Algebra	3	0	2	4	Basic Sciences
2		Statistics for Data Science – 2	3	0	2	4	Basic Sciences
3		IT Workshop and Cyber Security	0	2	2	2	Basic Engineering
4		Computer organization	2	2	0	3	Core
5		Data Structures and Algorithms	2	2	2	4	Core
6		Coding Competency	0	2	2	2	Core
7		Indian Knowledge System	0	2	0	1	Humanities
8		Universal Human Values	0	0	2	1	Humanities
9		Sports / Physical fitness / Games	0	0	3	1	Audit Course
		Total	**10**	**10**	**15**	**22**	
		Total		**35**		**22**	

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Year I Semester

Sl. No.	Course Code	Course Title	L	T	P	C	Course Category
1		Foundations for Machine Learning	3	2	0	4	Basic Sciences
2		Data Handling and Visualization	3	0	2	4	Core
3		Fundamentals of Object oriented programming	3	0	2	4	Core
4		Database Management Systems	3	0	2	4	Core
5		English Proficiency and Communication Skills	0	2	2	2	Humanities
6		Design Thinking & Orientation	0	2	0	1	Basic Engineering
7		NCC / NSS / SAC / Paper presentation / Social Activities	0	0	2	0	Audit Course
		Total	**12**	**6**	**10**	**19**	
		Total	**28**			**19**	

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II Year II Semester

Sl. No.	Course Code	Course Title	L	T	P	C	Course Category
1		Design and Analysis of Algorithms	3	0	2	4	Core
2		Machine Learning - I	2	0	2	3	Core
3		Software Engineering	2	2	0	3	Core
4		Program Elective – I	3	0	2	4	Elective
5		Business English Communication - I	0	2	2	2	Humanities
6		Business English Communication - II	0	2	2	2	Humanities
7		NCC / NSS / SAC / Paper Presentation / Social Activities	0	0	2	1	Audit Course
		Total	**10**	**6**	**12**	**19**	
		Total	**28**			**19**	

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III Year I Semester

Sl. No.	Course Code	Course Title	L	T	P	C	Course Category
1		Web Technologies	2	0	4	4	Core
2		Machine Learning - II	2	0	2	3	Core
3		Program Elective – II	3	0	2	4	Elective
4		Operating Systems	2	0	2	3	Core
6		Soft Skills Lab	0	0	2	1	Humanities
7		Quantitative Aptitude and Logical Reasoning	0	2	2	2	Humanities
7		Industry Interface Course (Modular Course)	1	0	0	1	Humanities
8		Project (Phase – I)	0	0	4	0	Project
		Total	**10**	**02**	**18**	**18**	
		Total	**30**			**18**	

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III Year II Semester

Sl. No.	Course Code	Course Title	L	T	P	C	Course Category
1		Program Elective – III	3	0	2	4	Elective
2		Program Elective – IV	3	0	2	4	Elective
3		Computer Networks	2	0	2	3	Core
4		Business Data Management	2	0	2	3	Core
5		Application Development – Data Science	0	2	2	2	Core
6		Professional Ethics	1	0	0	1	Humanities
7		Project (Phase – II)	0	0	4	4	Project
		Total	**11**	**02**	**14**	**21**	
		Total	**27**			**21**	

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IV Year I Semester

Sl. No.	Course Code	Course Title	L	T	P	C	Course Category
1		Big Data Analytics	3	0	2	4	Core
2		Deep Learning	3	0	2	4	Core
3		Program/Open Elective – I	3	0	2	4	Elective
4		Program/Open Elective – II	3	0	2	4	Elective
5		Program Elective – V	3	0	2	4	Elective
6		Field Project	0	0	4	2	Project
		Total	**15**	**0**	**14**	**22**	
		Total	**29**			**22**	

L=Lecture; T= Tutorial; P= Practical; C=Credits

IV Year II Semester

Sl. No.	Course Code	Course Title	L	T	P	C	Course Category
1		Program/Open Elective – III	3	0	2	4	Elective
		Project	0	6	22	14	Project
		Total	**3**	**6**	**24**	**18**	
		Total	**33**			**18**	

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LIST OF PROGRAM ELECTIVES

No.	Course Code	Course Title	L	T	P	C
1		Artificial Intelligence: Search Methods for Problem Solving	3	0	2	4
2		Optimization Techniques	3	0	2	4
3		Fundamentals of Image Processing	3	0	2	4
4		Cloud Computing	3	0	2	4
5		IoT Analytics	3	0	2	4
6		Introduction to IOT	3	0	2	4
7		Reinforcement Learning	3	0	2	4
8		Knowledge Representation	3	0	2	4
9		Evolutionary Computing	3	0	2	4
10		Theory of Computation	3	0	2	4
11		Social Media Analytics	3	0	2	4
12		Video Analytics	3	0	2	4
13		Medical Image Analytics	3	0	2	4
14		Introduction to Cryptography and Security	3	0	2	4
15		Natural Language Processing	3	0	2	4
16		Computer Vision	3	0	2	4

Chairperson