



VIGNAN'S
Foundation for Science, Technology & Research
UNIVERSITY
(Est'd u/s 3 of UGC Act of 1956)

DEPARTMENT OF BIOTECHNOLOGY

Date: 05.04.2016.

Minutes of Board of Studies (BOS) meeting of B.Tech Bioinformatics program held on 05-04-2016 at office Head of the department, Department of Biotechnology, Vignan's University, Vadlamudi.

Agenda of the meeting:

- 1) To discuss and finalize structure and detailed syllabus for B.Tech Bioinformatics program applicable from 2016-17 admitted batch.

Members present:

S.No	Name	Members	Signature
1.	Prof. S. Krupanidhi, HOD Department of Biotechnology	Chairman, BOS	
2.	Prof. Chanchal K Mitra University of Hyderabad Hyderabad	Invited member	
3.	Dr. S. R. Senthil Kumar, EVOLVA Biotech Private Limited, Chennai.	Invited member	
4.	Dr. Perugu Shyam, National Institute of Technology, Warangal	Invited member	
5.	Dr. D. Vijaya Ramu, Associate Professor	Internal Member	
6.	Dr. N. Jalaja, Assistant Professor	Internal Member	
7.	Mrs.M.Indira, Assistant Professor	Internal Member	
8.	Mr.D.John Babu, Assistant Professor	Internal Member	

Minutes of the BOS meeting

1. The chairman welcomed all the members of BOS.
2. The chairman highlighted broad objectives of the proposed changes in the course structure of B.Tech Bioinformatics.
3. The chairmen also explained in detail the suggestions and comments communicated various stakeholders.
4. The members of the BOS thoroughly looked at the proposals of Department of Biotechnology in the light of suggestions made by experts and recommended a new course structure for B. Tech Bioinformatics program.

After the discussion it is resolved to:

1. Propose and approve course structure for all 4 years of B.Tech. Programme in Bioinformatics (Appendix I)
2. Propose and approve detailed syllabus for the 4 year of B.Tech. Programme in Bioinformatics with effect from the academic year 2016-17. The proposed structure and syllabus are applicable for 2016 admitted batch onwards.
3. Stakeholder's feedback is collected, analyzed and given utmost priority while designing the curriculum and their suggestions are implemented
4. The curriculum follows choice-based credit system
5. Major restructuring has taken place in the curriculum which is oriented towards integration of major core courses with Minor Projects and Laboratories
6. Major restructuring has taken place in the curriculum by introducing new elective streams such as Drugs and Genome.
7. The total percentage of syllabus revision for B.Tech Bioinformatics Program is 41.04%.
8. The curriculum is encompassing the courses that enable employability or entrepreneurship or skill development (Appendix II)
9. In the B.Tech. Bioinformatics revised regulation R16, the substantial changes are made in the content of all courses and hence the courses are considered as new courses (Appendix III)

APPENDIX – I

Course Structure

I Year I Semester

Course Title	L	T	P	C
Basic Mathematics-I	3	1	2	5
Engineering Physics	3	-	-	3
Technical English Communication	3	-	2	4
Basics of Computers and Internet	3	-	2	4
Computer Programming	3	1	2	5
Basics of Engineering Products	3	-	2	4
English Proficiency and Communication Skills	-	-	2	1
Engineering Physics Laboratory	-	-	3	2
Total	18	2	15	28

I Year II Semester

Course Title	L	T	P	C
Basic Mathematics-II	3	1	2	5
Engineering Chemistry	3	-	-	3
Engineering Graphics	1	-	3	3
Basics of Electrical and Electronics Engineering	3	-	2	4
Engineering Chemistry Laboratory	-	-	3	2
Environmental Science and Technology	2	-	-	2
Bioproducts and Bioentrepreneurship	3	1	-	4
Work shop Practice	-	-	3	2
Total	15	2	13	25

II Year I Semester

Course Title	L	T	P	C
Probability and Statistics	3	1	-	4
Management Science	3	-	-	3
Biochemistry	3	-	2	4
Cell Biology	3	-	2	4
Microbiology	3	-	2	4
Scripting Languages	3	-	2	4
Employability and Life Skills Elective*	-	-	-	1
	18	1	8	24

II Year II Semester

Course Title	L	T	P	C
Genetics	3	1	-	4
Molecular Biology	3	-	2	4
Biological Databases	3	-	2	4
Molecular Evolution	3	-	2	4
Soft Skills Lab	-	-	2	1
Department Elective	-	-	-	3
Department / Open Elective	-	-	-	4
Employability and Life Skills Elective*	-	-	-	1
Total	12	1	8	25

III Year I Semester

Course Title	L	T	P	C
Molecular Phylogenetics	3	1	-	4
Biosensors	3	1	-	4
Enzyme Technology	3	-	2	4
Object Oriented Programming	3	-	2	4
Professional Communication Lab	-	-	2	1
Department Elective	-	-	-	3
Department / Open Elective	-	-	-	4
Employability and Life Skills Elective*	-	-	-	1
Total	12	2	6	25

III Year II Semester

Course Title	L	T	P	C
Professional Ethics	2	-	-	2
Bioethics and Intellectual Property Rights	3	-	-	3
Genetic Engineering and Epigenetics	3	-	2	4
Biodiversity and Conservation	3	-	-	3
Unix programming	3	-	2	4
Department Elective	-	-	-	4
Department / Open Elective	-	-	-	4
Employability and Life Skills Elective*	-	-	-	1
Total	14	2	4	25

IV Year I Semester

Course Title	L	T	P	C
Nanobiotechnology	3	-	-	3
Genomics and Proteomics	3	-	-	4
Immunology and Immunoinformatics	3	-	2	4
Structural bioinformatics	3	-	2	4
Biomedical Informatics	3	-	2	4
Department Elective	-	-	-	4
Department / Open Elective	-	-	-	4
Employability and Life Skills Elective*	-	-	-	1
Total	15	1	4	27

IV Year II Semester

Course Title	L	T	P	C
Project work / Internship	-	-	30	15
Total	-	-	30	15

MODULAR COURSES

Course Title	C
MODULAR COURSE I	1

The courses that are highlighted denote implementation of 'Choice Based Credit System (CBCS)'

DEPARTMENT ELECTIVE STREAMS AND COURSES

STREAM - 1: DRUGS

Course Title	C
BIOPHARMACEUTICAL TECHNOLOGY	4
MOLECULAR MODELING	3
METABOLOMICS AND METABOLIC ENGINEERING	3
DRUG DESIGN	4

STREAM - 2: GENOME

Course Title	C
GENOMES OF PATHOGENS	4
NEXT GENERATION SEQUENCING AND ANALYSIS	3
FORENSIC GENOMICS	3
METAGENOMICS	4

Inter Department Electives

Course Title	C
Elements of Bioinformatics	4
Comparative Genomics	4
Algorithms for Bioinformatics	4
Molecular Modeling & Drug Design	4



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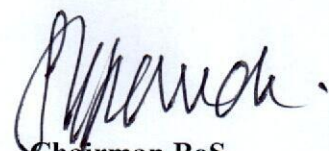
DEPARTMENT OF BIOTECHNOLOGY

APPENDIX - II

List of courses that enable employability or entrepreneurship or skill development in the R-16 B.Tech – Bioinformatics

S.No	Year	Core/Elective	Course Name	Employability/ Entrepreneurship/ Skill development
1.	II	Core	Biological Databases	Skill development
2.	II	Core	Molecular Evolution	Skill development
3.	II	Intra Department Elective	Biopharmaceutical Technology	Skill development
4.	II	Intra Department Elective	Genomes of Pathogens	Skill development
5.	II	Inter Department Elective	Interduction to Bioinformatics	Skill development
6.	III	Core	Molecular Phylogenetics	Skill development
7.	III	Intra Department Elective	Molecular Modeling	Skill development
8.	III	Intra Department Elective	Next Generation Sequencing and Analysis	Skill development
9.	III	Inter Department Elective	Comparative Genomics	Skill development
10.	III	Core	Biodiversity and conservation	Skill development
11.	III	Intra Department Elective	Metabolomics and Metabolic Engineering	Skill development

S.No	Year	Core/Elective	Course Name	Employability/ Entrepreneurship/ Skill development
12.	III	Intra Department Elective	Forensic Genomics	Employability
13.	III	Inter Department Elective	Algorithms in Bioinformatics	Skill development
14.	IV	Core	Structural Bioinformatics	Employability
15.	IV	Core	Biomedical Informatics	Employability
16.	IV	Intra Department Elective	Drug Design	Skill development
17.	IV	Intra Department Elective	Metagenomics	Skill development
18.	IV		Internship	Employability
19.	IV		Project Work	Employability
20.			Employability Skills-III	Employability
21.			Modular Course	Employability


Chairman BoS



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APPENDIX - III

List of new courses in the R-16 **B.Tech – Bioinformatics Curriculum**

S.No	Year	Core/Elective	Course Name
1.	II	Core	Biological Databases
2.	II	Core	Molecular Evolution
3.	II	Intra Department Elective	Biopharmaceutical Technology
4.	II	Intra Department Elective	Genomes of Pathogens
5.	II	Inter Department Elective	Interduction to Bioinformatics
6.	III	Core	Molecular Phylogenetics
7.	III	Intra Department Elective	Molecular Modeling
8.	III	Intra Department Elective	Next Generation Sequencing and Analysis
9.	III	Inter Department Elective	Comparative Genomics
10.	III	Core	Biodiversity and conservation
11.	III	Intra Department Elective	Metabolomics and Metabolic Engineering
12.	III	Intra Department Elective	Forensic Genomics

S.No	Year	Core/Elective	Course Name
13.	III	Inter Department Elective	Algorithms in Bioinformatics
14.	IV	Core	Structural Bioinformatics
15.	IV	Core	Biomedical Informatics
16.	IV	Intra Department Elective	Drug Design
17.	IV	Intra Department Elective	Metagenomics
18.	IV		Internship
19.	IV		Project Work
20.			Employability Skills-III
21.			Modular Course

Shyamoli
Chairman BoS