



Avinashilingam Institute for Home Science and Higher Education for Women

(Deemed to be University under Category A by MHRD, Estd. u/s 3 of UGC Act 1956)

Re-accredited with A+ Grade by NAAC. Recognised by UGC Under Section 12 B

Coimbatore - 641 043, Tamil Nadu, India

Minutes of Board of Studies in Biochemistry, Biotechnology & Bioinformatics held on 27.9.2021 at 10.30 am

Members List

Internal Members:

1. Dr. Anitha Subash, Professor & Head - Chairperson
2. Dr. S. Gayathri Devi, Professor - Member
3. Dr. T. Angayarkanni, Associate Professor - Member
4. Dr. Kalaiselvi Senthil, Associate Professor & Assistant Dean, Research - Member
5. Dr. N. Santhi, Assistant Professor (SS) - Member
6. Dr. D. Kavitha, Assistant Professor - Member

External Members:

1. Dr. N. Saraswathy, Professor, Department of Biotechnology,
Kumaraguru College of Technology, Coimbatore - Academician
2. Dr. Sujith Eranezhath, Assistant Director and Scientist,
AVP Research Foundation, Coimbatore - Industrial Expert

Invited Members:

1. Dr. S. Sumathi, Associate Professor
2. Dr. R. Nirmaladevi, Assistant Professor (SG)
3. Dr. S. Velvizhi, Assistant Professor (SS)
4. Dr. A. Shobana, Assistant Professor (SS)
5. Dr. M. Rajeswari, Assistant Professor
6. Dr. S. T. Yamuna, Assistant Professor
7. Dr. E. Nithya, Assistant Professor
8. Dr. M. Sudha Devi, Assistant Professor
9. Dr. K. V. Shalini, Assistant Professor
10. Dr. C. C. S. Vasundhara, Assistant Professor
11. Ms. V. Karmuhil Mathimozhiyazh, II M.Sc. Biotechnology - Student Representative
12. Ms. K. Santhiya, Process Associate, Greenskript Pvt. Ltd, Coimbatore - Alumnae Representative

Agenda

1. (a) **Programme Learning Outcomes** have been included for UG & PG programmes for students admitted from 2021-2022 & onwards.

B. Sc Biochemistry & Biotechnology

M. Sc Biochemistry

M. Sc Biotechnology

M. Sc Bioinformatics

(b) CLO-PLO mapping applicable for UG & PG students admitted from 2021-2022 & onwards has been carried out for the 1st and 2nd semesters.

2. **Suggestions by Students / Alumni / Employers on Curriculum and Syllabus** (Annexure 1)
3. The following syllabi of **Specialization courses** applicable for Ph.D. scholars admitted during August/September 2021 have been approved

S. No.	Register Number	Course Code	Course Title
1.	21PHBCF002	21PHBC03A	Techniques in Plant Tissue Culture - <i>Withania somnifera</i>
2.	21PHBCF005	21PHBC03A	Techniques in Plant Tissue Culture- <i>Withania somnifera</i>
3.	21PHBCF003	21PHBC03B	Biomarkers in Diabetes mellitus
4.	21PHBCF004	21PHBC03C	Enzyme Technology in Solid Waste Management
5.	21PHBCF006	21PHBC03D	Antioxidants and Anti-carcinogenesis in Medicinal Plants
6.	21PHBTF001	21PHBT03A	Molecular basis of Cancer Progression, Diagnosis and Treatment
7.	21PHBTF002	21PHBT03B	Role of Environmental Biomarkers in Treatment and Management of Cancer
8.	21PHBTP001	21PHBT03C	Industrial Waste Management

4. **Revision of certain courses** applicable for students admitted from 2021-2022 & onwards (already permitted by the Vice Chancellor)

B.Sc. Biochemistry and Biotechnology

1. The course codes of all the courses are revised from 18UBB to 21UBB.
2. A new course entitled '21BAFU01 - Fundamentals of Research' is introduced under Part IV component in the second semester as prescribed in the new norms set by the institution.
3. Number of credits under the Part IV component is increased from 18 to 20 with the introduction of the new course 21BAFU01

4. Number of credits for the Extra-curricular course NCC is increased from 6 to 24 as per the new institutional guidelines and total credits increased from 18 to 38 correspondingly.
5. Title of the course '18BBTC18 Project Work' is renamed as Bio-entrepreneurship Development & Project Work
6. The topic 'COVID-19' is included in Unit V of the course '21BBTC02 Microbiology'

M. Sc. Biochemistry

1. The course codes of all the courses are revised from 20MBC to 21MBC.
2. The total number of credits is increased from 85 to 97.
3. The course '20MBCC10 Nutritional Biochemistry' is shifted from II semester to I semester and its course code is revised to 21MBCC05.
4. The course codes of the subsequent courses after 21MBCC05 are revised accordingly
5. The course '20MBCC23 Biostatistics and Research Methodology (Open Book Test)' is shifted from IV semester to II semester and the course code is revised to 21MBCC11
6. The course '20MBCC22 Neurochemistry' is shifted from IV semester to III semester and the course code is revised to 21MBCC19
7. The title of the course '20MBCC08 Bioinformatics' is changed to '21MBCC08 Concepts of Bioinformatics for Biochemistry'
8. The number of credits is increased from 3 to 4 for the following courses
 - 21MBCC02 Cell Biology and Microbial Biochemistry
 - 21MBCC03 Intermediary Metabolism and Regulation
 - 21MBCC07 Practicals II - Microbial Techniques
 - 21MBCC09 Genetics and Molecular Biology
 - 21MBCC10 Diagnostic Biochemistry
 - 21MBCC12 Practicals III - Bioinformatics, Clinical Biochemistry
 - 21MBCC13 Practicals - IV Molecular Biology
 - 21MBCC17 Genetic Engineering
 - 21MBCC18 Advanced Enzymology
 - 21MBCC21 Practicals - VI Tissue Culture
9. The title of the course 21MBCC24 is changed from 'Thesis' to 'Research Project' and the number of credits is increased from 6 to 8.

10. The hours of instruction is reduced from 4 to 3 for the following courses
 - 21MBCC01 Biophysical Methodology
 - 21MBCC02 Cell Biology and Microbial Biochemistry
 - 21MBCC04 Pharmaceutical and Hormonal Biochemistry
 - 21MBCC11 Biostatistics and Research Methodology (Open Book Test)
 - 21MBCC15 Immunology and Immunotechnology
 - 21MBCC16 Physiology, Biochemistry and Biotechnology of Plants
 - 21MBCC17 Genetic Engineering and Nanotechnology
 - 21MBCC18 Advanced Enzymology
11. The hours of instruction is increased from 4 to 5 for 21MBCC21 Practicals - VI Tissue Culture
12. In the course '21MBCC01 Biophysical Methodology', LC MS included in Unit IV.
13. In the course '21MBCC02 Cell Biology and Microbial Biochemistry', the topic Coronavirus – pathogenesis and diagnosis is included in Unit V.
14. The following changes have been carried out in the course '21MBCC10 Diagnostic Biochemistry',
 - Title of Unit II has been changed to Human Genetic Disorders
 - Case studies of Phenyl Ketonuria, Sickle Cell Anemia and Thalassemia in Unit II
 - Bioethics, Biosafety and Biomedical waste management has been included in the self-study portion of Unit I
15. The following changes are incorporated in '21MBCC17 Genetic Engineering'
 - In Unit III, Transgenic plants is included
 - The topic 'Transgenic animals and birds' is shifted from Unit III to Unit V
 - The topics 'Issues in genetic engineering on biosafety of transgenic organisms, Food safety of GMOs, Environmental Safety' are included in Unit V

M. Sc. Biotechnology

1. The course codes of all the courses are revised from 20MBT to 21MBT.
2. The total number of credits is increased from 85 to 97.
3. The course '20MBTC07 Genetics' is shifted from II semester to I semester and the course code is revised to 21MBTC05.
4. The course codes of the subsequent courses after 21MBTC05 are revised accordingly.
5. The course '20MBTC23 Biostatistics and Research Methodology (Open Book Test)' is shifted from IV semester to II semester and the course code revised to 21MBTC11.

6. The course '20MBTC22 Food Biotechnology and Nanobiotechnology' is shifted from IV semester to III semester and the course code revised to 21MBTC19.
7. The number of credits is increased from 3 to 4 for the following courses;

21MBTC02	Cell Biology and Microbiology
21MBTC04	Biophysical Techniques
21MBTC07	Practicals II – Cell Biology and Microbial Techniques
21MBTC08	Animal Biotechnology
21MBTC10	Recombinant DNA technology
21MBTC12	Practicals III – Animal Biotechnology and Bioinformatics
21MBTC13	Practicals IV – Recombinant DNA Technology
21MBTC17	Enzymes and Bioprocess Technology
21MBTC18	Pharmaceutical Biotechnology
21MBTC20	Practicals V – Immunotechnology and Plant Biotechnology
8. The title of the course 21MBTC24 is changed from 'Thesis' to 'Research Project' and the number of credits is increased from 6 to 8.
9. The hours of instruction is reduced from 4 to 3 for the following courses

21MBTC01	Biochemical Concepts for Biotechnology
21MBTC02	Cell Biology and Microbiology
21MBTC03	Molecular Biology
21MBTC04	Biophysical Techniques
21MBTC05	Genetics
21MBTC11	Biostatistics and Research Methodology (Open Book Test)
21MBTC15	Immunology and Immunotechnology
21MBTC16	Plant Biotechnology
21MBTC17	Enzymes and Bioprocess Technology
21MBTC18	Pharmaceutical Biotechnology
10. The hours of instruction is increased from 5 to 6 for 21MBTC07 Practical - II Cell Biology and Microbial Techniques.
11. The hours of instruction is increased from 4 to 5 for 21MBTC12 Practical - III Animal Biotechnology and Bioinformatics.
12. The hours of instruction is increased from 4 to 5 for 21MBTC15 Practical - V Immunotechnology and Plant Biotechnology.
13. In the course '21MBTC02 Cell Biology and Microbiology', corona virus is included under Unit V.


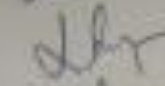
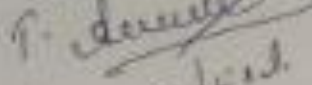

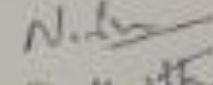
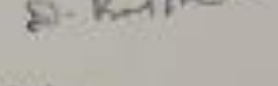
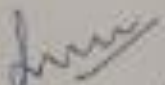
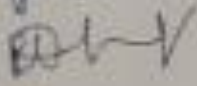

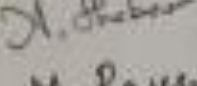
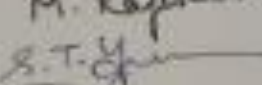


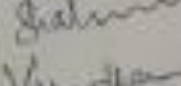
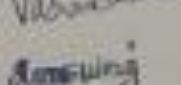
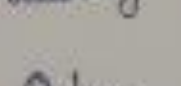
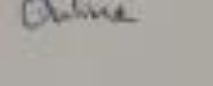

M. Sc Bioinformatics

1. The course codes of all the courses are revised from 20MBI to 21MBI.
2. The total number of credits is increased from 85 to 97.
3. The contents of the Unit IV and V have been interchanged for the Course '21MBIC01 – Basic Biology'.
4. The course '20MBIC09 Molecular Biology and rDNA Technology' has been shifted from II semester to I semester and the course code revised to 21MBIC04.
5. The course '20MBIC23 Research Methodology and Statistics (Open Book Test)' has been shifted from IV semester to II semester and the course code revised to 21MBIC11.
6. Case study has been incorporated in Unit IV of the course '21MBIC05 – Biological Databases and Sequence Analysis'.
7. The title of the course '20MBIC08 - Structural Bioinformatics' has been changed to '21MBIC09 - Structural Bioinformatics and R Programming' and the content has been recast.
8. Case study and the topic Pharmacognosy have been incorporated in the content of the Unit IV of the course '20MBIC16 – Molecular Modeling, Simulation and Drug Designing' with change in course code as 21MBIC17 and no change in title.
9. The content of the course '20MBIC17 - Next Generation Sequencing and Data analysis' has been revised with change in the title as '21MBIC18 - Big Data and Next Generation Sequencing'
10. The content of the course '20MBIC22 - Synthetic and Systems Biology' has been revised and shifted from IV semester to III semester with change in title as '21MBIC19 - Systems Biology and Machine Learning'.
11. The contents of the courses '20MBIC18 Practicals 5 - Database Management System, Molecular Modeling and Drug Discovery' and '20MBIC19 Practicals 6 – Object Oriented Languages' have been restructured and renamed as '21MBIC20 - Practicals V - Drug Designing and Next Generation Sequencing Data Analysis' and '21MBIC21 - Practicals VI – Object Oriented languages and Database Management Systems' respectively.
12. The title of the course '21MBIC24 – Thesis' has been changed to Research Project and the number of credits has been increased from 6 to 8.

13. The number of credits has been increased from 3 to 4 for the following courses
- 21MBIC03 Basics in Computer and C Programming
 - 21MBIC05 Biological Databases and Sequence Analysis
 - 21MBIC06 Practicals I- C programming and Web Programming
 - 21MBIC08 Perl and Python
 - 21MBIC11 Practicals III - Perl and Python
 - 21MBIC12 Practicals IV - Genomics and Proteomics
 - 21MBIC16 Object Oriented Languages
 - 21MBIC18 Big Data and Next Generation Sequencing
 - 21MBIC19 Systems Biology and Machine Learning
 - 21MBIC20 Practicals V - Drug Designing and Next Generation Sequencing, Data Analysis
14. The hours of instruction has been reduced from 4 to 3 hrs for the following courses
- 21MBIC01 Basic Biology
 - 21MBIC02 Applied Mathematics in Bioinformatics
 - 21MBIC11 Research Methodology and Statistics (Open Book Test)
 - 21MBIC15 Database Management System
 - 21MBIC17 Molecular Modeling, Simulation and Drug Designing
15. The hours of instruction is reduced from 6 to 5 hrs. for the courses 21MBIC06 - Practicals I - C Programming and Web Programming and 21MBIC13 - Practicals IV - Genomics and Proteomics and
16. The hours of instruction is reduced from 5 to 4 hrs. for the courses 21MBIC20 - Practicals V - Drug Designing and Next Generation Sequencing Data Analysis and 21MBIC21 - Practical VI – Object Oriented Languages and Database Management Systems from 5 to 4 hours
5. **The list of Subject experts for Question paper setting and Valuation & Subject experts for Screening & Selection Committee has been updated.** (Annexure 2)

Members Present:

1. Dr. Anitha Subrah, Professor and Head
2. Dr. S. Gayathri Devi, Professor
3. Dr. T. Angayarkanni, Associate Professor
4. Dr. Kalaiselvi Senthil,
Associate Professor and Assistant Dean, Research
5. Dr. N. Sathi, Assistant Professor (SS)
6. Dr. D. Kavitha, Assistant Professor
7. Dr. N. Saraswathy, Professor,
Department of Biotechnology,
Kumaraguru College of Technology, Coimbatore.
8. Dr. Sujith Francisbach,
Assistant Director and Scientist,
AVP Research Foundation, Coimbatore.
9. Dr. S. Sumathi, Associate Professor
10. Dr. R. Nirmaladevi, Assistant Professor (SG)
11. Dr. S. Velvizhi, Assistant Professor (SS)
12. Dr. A. Shobana, Assistant Professor (SS)
13. Dr. M. Rajeswari, Assistant Professor
14. Dr. S. T. Yamina, Assistant Professor
15. Dr. E. Nithya, Assistant Professor
16. Dr. M. Sudha Devi, Assistant Professor
17. Dr. K. V. Shalini, Assistant Professor
18. Dr. C. C. S. Vaandhara, Assistant Professor
19. Ms. V. Kamuhil Mathimuzhiyazh,
II M.Sc. Biotechnology
20. Ms.K. Santhiya, Process Associate,
Greenskript Pvt. Ltd., Coimbatore

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1. **Revision of Courses in already existing Programme (if any)**

a. Revision of courses without title change

Programme	Course code	Course title	Semester	Credits	Percentage of revision
B.Sc. Biochemistry	21BBTC02	Microbiology	I	3	3
M. Sc. Biochemistry	21MBCC01	Biophysical Methodology	I	3	3
	21MBCC02	Cell Biology and Microbial Biochemistry	I	4	3
	21MBCC10	Diagnostic Biochemistry	II	4	10
	21MBCC17	Genetic Engineering	III	4	10
M.Sc. Biotechnology	21MBTC02	Cell Biology and Microbiology	I	4	3
M. Sc. Bioinformatics	21MBIC05	Biological Databases and Sequence Analysis	I	4	10
	21MBIC17	Molecular Modeling, Simulation and Drug Designing	III	3	10

b. Introduction of courses/Revision of Courses with title change

Programme	Course code	Course title	Semester	Credits	Type (Specify- New/Title change)	Percentage of revision (if new indicate as new)
M. Sc. Biochemistry	20MBCC07	Bioinformatics	II	3	21MBCC08- Concepts of Bioinformatics for Biochemistry	Nil
M.Sc. Bioinformatics	20MBIC08	Structural Bioinformatics	II	3	21MBIC09- Structural Bioinformatics and R Programming	20
	20MBIC10	Introduction to OMICs Technologies	II	3	21MBIC10 - OMICs Technologies	Nil
	20MBIC17	Next Generation Sequencing and Data Analysis	III	3	21MBIC18 - Big Data and Next Generation Sequencing	40
	20MBIC22	Synthetic and Systems Biology	III	4	21MBIC19 - Systems Biology and Machine Learning	40
	20MBIC18	Practicals 5 – Database Management System, Molecular modeling and Drug Discovery	III	4	21MBIC20 - Practical V – Drug Designing, and Next Generation Sequencing Data Analysis	80
	20MBIC19	Practicals 6 Object Oriented Languages	III	4	21MBIC21 - Practical VI Object Oriented Languages and Database Management Systems	50

2. **New programmes (if any) introduced - None**

3. **Part IV Component of UG/ Part II Component of PG (if any)**

a. Revision of courses in Part IV Component of UG/ Part II Component of PG without title change: Nil

Course code	Course title	Semester	Credits	Percentage of revision

b. Introduction of courses/Revision of Courses in Part IV Component of UG/ Part II Component of PG with title change

Course code	Course title	Semester	Credits	Type (Specify- New/Title change)	Percentage of revision (if new indicate as new)
21BAFU01	Fundamentals of Research	II	2	New	New

4. **Deletion or removal of courses to be specified in detail: Nil**

5. **Any other matter specific to the Department: Nil**