

KUMARAGURU COLLEGE OF TECHNOLOGY,

An autonomous Institution affiliated to Anna University, Chennai

COIMBATORE – 641 049.

M.Tech BIOTECHNOLOGY

REGULATION 2024



I to IV Semesters

DEPARTMENT OF BIOTECHNOLOGY

VISION

Strong teaching and research foundation in the area of biotechnology and allied fields through

knowledge dissemination to students and the public and to scale new heights in the frontier areas of health and environment and ethics for welfare of humankind globally.

MISSION

- Develop dynamic curriculum and syllabus to promote innovative and creative practices.
- Encourage students for innovation and setting start-ups and equip leadership and entrepreneurial skills
- Train students on issues related to social welfare.
- Groom students to uphold professional and leadership qualities.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

The Program Educational Objectives of Environmental Engineering Postgraduate Program are to prepare the graduates:

PEO1: To apply professional knowledge and skills in academia, industry and research.

PEO2: To enable the students to evaluate real life problems and to propose biotechnological solutions with economical and social impact.

PEO3: To train the students individually/ or in a team for intellectual independence to provide innovative solutions.

Signature of the BOS Chairman

PROGRAM OUTCOMES (POs)

Graduates of the Environmental Engineering Postgraduate Program should have the ability to:

PO1: An ability to independently carry out research / investigation and development work to solve practical problems.

PO2: An ability to write and present a substantial technical report / document.

PO3: An ability to demonstrate a degree of mastery over the area as per the specialization of the program.

PO4: An ability to employ bio-based techniques to address issues related to health with professional ethics.

PO5: An ability to develop/ utilize sustainable technology to address environmental issues.

PO6: An ability to apply modern engineering tools for the implementation of interdisciplinary projects.

Signature of the BOS Chairman

KUMARAGURU COLLEGE OF TECHNOLOGY

DEPARTMENT OF BIOTECHNOLOGY REGULATION 2024 M.Tech BIOTECHNOLOGY- Curriculum

Semester I

S.No	Course code	Course Title	Course Mode	Course Type	L	T	P	J	C
1	24MAI501	Statistical methods for Engineers	Embedded	BS	3	0	2	0	4
2	24INT501	Research Methodology & IPR	Theory	ES	3	0	0	0	3
3	24MBT501	Bioprocess Modeling and Simulation	Theory	PC	3	0	0	0	3
4	24MBT502	Gene Expression and Analysis	Theory	PC	3	0	0	0	3
5	24MBI503	Animal, Plant and Microbial Cell Culture	Embedded	PC	1	0	4	0	3
6	24MBT504	Bioproduct Separation and Purification Engineering	Theory	PC	3	0	0	0	3
7	24MBP505	Bioproduct Development Lab I	Practical	PC	0	0	4	0	2
Total Credits									21
Total Contact Hours/week									26

Semester II

S.No	Course code	Course Title	Course Mode	Course Type	L	T	P	J	C
1	24MBI506	Computational Biology	Embedded	PC	3	0	2	0	4
2	24MBT507	Regulatory Affairs in Bioproduct Manufacturing	Theory	PC	3	0	0	0	3
3	24MBP508	Bioproduct Development Lab II	Practical	PC	0	0	2	0	1
4	24MBI509	Biotechnology Professional Practices lab	Practical	PC	0	0	2	0	1
5	24MBJ510	Technical Seminar	Practical	PC	0	0	0	2	1
6	24MBE00_	Professional Elective-I	Theory	PE	3	0	0	0	3
7	24MBE00_	Professional Elective-II	Theory	PE	3	0	0	0	3
8	24MBE00_	Professional Elective-III	Theory	PE	3	0	0	0	3
Total Credits									19
Total Contact Hours/week									23

Signature of the BOS Chairman

Semester III									
S.No	Course code	Course Title	Course Mode	Course Type	L	T	P	J	C
1	24MBJ511	Social Immersion project	Project	EEC	0	0	0	4	2
2	24MBJ512	Project Phase I /Industry Internship	Project	EEC	0	0	0	20	10
3	24MBE00-	Professional Elective-IV	Theory	PE	3	0	0	0	3
4	24MBE00-	Professional Elective-V	Theory	PE	3	0	0	0	3
5	24MBE00-	Professional Elective-VI	Theory	PE	3	0	0	0	3
Total Credits									21
Total Contact Hours/week									33

Semester IV									
S.No	Course code	Course Title	Course Mode	Course Type	L	T	P	J	C
1	24MBJ513	Project Phase II/ Industry Project	Project	EEC	0	0	0	40	20
Total Credits									20
Total Contact Hours/week									40
Total Credits									81

Semester-wise Credits	
Semester - I	21
Semester - II	19
Semester - III	21
Semester - IV	20
Total Credits	81

Signature of the BOS Chairman

Electives

S.No	Course code	Course Title	Course	Course Type	L	T	P	J	C
1	24MBE00	Biorefinery and Sustainable	Theory	PE	3	0	0	0	3
2	24MBE00	Wastewater Treatment Technology	Theory	PE	3	0	0	0	3
3	24MBE00	Bioremediation Technology	Theory	PE	3	0	0	0	3
4	24MBE00	Molecular Diagnostics and	Theory	PE	3	0	0	0	3
5	24MBE00	Cell culture and Vaccine	Theory	PE	3	0	0	0	3
6	24MBE00	Clinical Research and Management	Theory	PE	3	0	0	0	3
7	24MBE00	Nanomaterials and Applications	Theory	PE	3	0	0	0	3
8	24MBE008	Drug Delivery Principles & Engineering Theory	Theory	PE	3	0	0	0	3
9	24MBE00	Human Physiology & Allied	Theory	PE	3	0	0	0	3
10	24MBE01	Medical Textiles	Theory	PE	3	0	0	0	3
11	24MBE01	RNA Biology	Theory	PE	3	0	0	0	3

Course types	Credits
Basic Science	4
Engineering Science	3
Professional Core	23
Professional Electives	18
Project/Industry Internship	32
Technical Seminar	1
Total Credits	81

Signature of the BOS Chairman
