Curriculum

The Biotechnology Curriculum is developed so as to impart skills of an engineer in design and improve design, modeling and simulation to meet the needs of 21st century Biotech Industry and research. Students are given training in communication skills, humanity, quality control, Quality assurance, basic disciplines as: physics, chemistry, mathematics, computer science, basic Biology etc. Allied subjects are given importance. Biotechnology students are given 35% training in Bioinformatics subjects as: computer hardware and software, data management, data warehousing, Biological databases, proteomics, genomics drug designing. Bioinformatics students have been given 35% courses in Biotechnology in order to familiarize themselves with the industry.

The Department aims at providing high quality training to students through the latest technology. In order to maintain the standard of education, University of Madras upgraded the academic syllabi to CBCS pattern so as to keep the students well trained to deal with changing trends in the field of Technology. The syllabus and courseware are planned to be flexibleand intensive hands on training enables the students to gain-in-depth understanding,Ability to assess new biomaterials and bio-processing techniques for improving efficiency or reducing pollution, problem solving capability and Ability to use Bioinformatics tools, Ability to transfer laboratory results for large scale commercial productionAbility to identify, formulate and solve biotechnology related problems in healthcare, agriculture, environment and energy sectors.

YEAR	II YEAR	III YEAR
SEMESTER- I	**SEMESTER-III**	**SEMESTER-V**
Language-I	Language – III	Animal and Medical Biotechnology
English –I	English – III	Immunology
Core I- Cell Biology	Core V- Genetics	Bioinformatics
Allied-1: Microbiology	Allied-II: Biochemistry	Pharmaceutical Biotechnology
Non Major Elective-Plant physiology	Environmental Studies	Elective-I: Value Education
Soft Skills- I	Soft Skills- III	
Practical-I CellBiology& Microbiology	Practical-VI Genetics & Biochemistry	Practical-XII Animal and Medical Biotechnology & Immunology
SEMESTER- II	**SEMESTER-IV**	**SEMESTER-VI**
Language-II	Language – III	Genetic Engineering
English –II	English – III	Bioprocess Technology
Core-III–Molecular Development Biology	Core VII-Plant Biotechnology	Bioinformatics
Allied-II: Chemistry	Allied-II: Biophysics and Biostatistics	Elective-II - Microbial Biotechnology
Non Major Elective- Basics of Ecology	Environmental Studies	Elective-III: Environmental

Soft Skills- II	Soft Skills- IV	Biotechnology
Practical-II Molecular Development Biology& Chemistry	Practical-VIII Plant Biotechnology	PracticalXV-GeneticEngineering &BioprocessTechnology