

Department of

## Biotechnology

### About

Biotechnology is currently the entry level educational qualification that is treated on par with medical field.

Post COVID, there is now a huge demand for Vaccines, Enzymes, Drugs and students need to be fully equipped with the necessary skills to meet these emergent challenges.

Biotechnology is a golden tool to solve some of the key global problems like global warming, Pandemics and above all; poverty. Recent advances in synthetic biology, bioenergy, bioremediation, virtual cell, genomics, proteomics, bioinformatics and bio-nanotechnology have made biotechnology even more powerful.

Career opportunities are plentiful both in India as well as in abroad with pharmaceutical companies, chemical, agriculture and healthcare sectors. They can also be employed in the areas of planning, production and management of bio-processing industries

The Department possesses highly qualified faculty members from Premier Institutions of India and abroad working on various frontier research areas of Biotechnology such as Nanobiotechnology, Metabolic Engineering, Environmental Biotechnology, Biomaterials Engineering, Interfaces and Nanomaterials. This ensures worldclass curriculum and pedagogy.

Why study Biotechnology

**Programme Offered****UG Programme****B.Tech. Biotechnology**

## Specialization in

- Food and Precision Agriculture
- Minor
- Bioprocess Control & Devices
- Honors
- Bioengineering

**PG Programme****M.Tech. Biotechnology**(Specialization in Industrial Biotechnology) (<https://www.veltech.edu.in/admbio/>)

Funded by DBT, Govt. of India

**Ph.D. Programme**

- Ph.D. Biotechnology

**Programme Core Courses**

S.No	Course Code	Course Name
1	1151BT101	ANALYTICAL TECHNIQUES AND INSTRUMENTATION
2	1151BT102	BASIC CONCEPTS OF BIOTECHNOLOGY
3	1151BT103	MICROBIOLOGY
4	1151BT104	BIOCHEMISTRY
5	1151BT105	BIOSTATISTICS
6	1151BT106	CELL BIOLOGY
7	1151BT107	PRINCIPLES OF CHEMICAL ENGINEERING
8	1151BT108	MOLECULAR BIOLOGY: CONCEPTS AND TECHNIQUES
9	1151BT109	BIOPROCESS ENGINEERING
10	1151BT110	GENETIC ENGINEERING
11	1151BT111	IMMUNOLOGY AND IMMUNOTECHNOLOGY
12	1151BT112	BIOLOGICAL MASS TRANSFER
13	1151BT113	DOWNSTREAM PROCESSING
14	1151BT114	CHEMICAL REACTION ENGINEERING
15	1151BT115	BIOETHICS & IPR

S.No	Course Code	Course Name
16	1151BT116	UNIT OPERATIONS AND TRANSPORT PHENOMENA
17	1151BT201	COMPUTATIONAL BIOLOGY: TECHNIQUES AND APPLICATIONS (INTEGRATED)
18	1151BT301	MICROBIOLOGY LAB
19	1151BT302	BIOCHEMISTRY LAB
20	1151BT303	CELL BIOLOGY LAB
21	1151BT304	MOLECULAR BIOLOGY LAB
22	1151BT305	BIOPROCESS ENGINEERING LAB
23	1151BT306	IMMUNOLOGY LAB
24	1151BT307	DOWNSTREAM PROCESSING LAB

### Programme Elective Course



#### Programme Elective Course ( Industrial & Medical Domain)

S.No	Course Code	Course Name
1	1152BT101	FOOD PROCESSING TECHNOLOGY
2	1152BT102	BIOENERGY
3	1152BT104	ALGAL BIOTECHNOLOGY
4	1152BT105	METABOLIC ENGINEERING
5	1152BT106	AGRICULTURAL BIOTECHNOLOGY
6	1152BT107	FERMENTATION TECHNOLOGY
7	1152BT108	UNIT OPERATIONS AND TRANSPORT PHENOMENA
8	1152BT109	ENVIRONMENTAL BIOTECHNOLOGY
9	1152BT110	NANOBIOTECHNOLOGY AND ITS APPLICATION
10	1152BT112	ENZYME SCIENCE & TECHNOLOGY
11	1152BT113	PROTEIN ENGINEERING
12	1152BT114	PROCESS INSTRUMENTATION AND DYNAMIC CONTROL
13	1152BT115	BIOREACTOR DESIGN AND INSTRUMENTATION CONTROL
14	1152BT116	MARINE BIOTECHNOLOGY AND AGRICULTURE
15	1152BT117	VALORISATION

S.No	Course Code	Course Name
16	1152BT118	CANCER BIOLOGY
17	1152BT119	MOLECULAR PATHOGENESIS
18	1152BT120	BIOPHARMACEUTICAL TECHNOLOGY
19	1152BT121	STEM CELL TECHNOLOGY
20	1152BT122	BIOSENSORS AND INSTRUMENTATION
21	1152BT123	BIOCHIPS AND MICROARRAY
22	1152BT124	BIOMATERIALS
23	1152BT125	PLANT BIOTECHNOLOGY
24	1152BT126	ANIMAL BIOTECHNOLOGY
25	1152BT127	TISSUE ENGINEERING
26	1152BT130	HERBAL AND PHYTOCHEMICAL ENGINEERING
27	1152BT131	SYNTHETIC BIOLOGY

#### Institute Programme Elective Course



#### Institute Programme Elective Course

S.No	Course Code	Course Name
1	1154BT101	BIOMATERIALS ENGINEERING
2	1154BT102	BIO-INSPIRED ENGINEERING-PRINCIPLES AND PRACTICE
3	1154BT103	ENGINEERING ADVANCES IN FOOD PRESERVATION

#### Allied Elective Course



#### Allied Elective Course

S.No	Course Code	Course Name
1	1153BT101	BIOCHIPS AND MICROARRAYS
2	1153BT102	BIOSENSORS AND INSTRUMENTATION

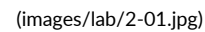
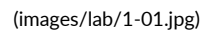
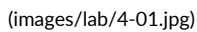
#### Unique Features



Deep rooted curriculum that meets Industrial demands and emergent challenges



This field is vast and diverse, it provides a platform for an elaborate research work. Recently, there has been a tremendous rise in the number of eminent Industries in India such as Biocon, Serum Institute of India, Panacea Biotech Limited, Dr. Reddy's Laboratories Limited, GlaxoSmithKline Pharmaceuticals Limited, Indian Immunologicals Limited, Shantha Biotechnics Limited, Piramal Healthcare, Zydus Cadila, Gennova Pharmaceuticals etc.

✉ [hodbiotech@veltech.edu.in](mailto:hodbiotech@veltech.edu.in) (mailto:[hodbiotech@veltech.edu.in](mailto:hodbiotech@veltech.edu.in))

**in**

(https://www.linkedin.com/company/tech-@)

f tech-@ (https://www.facebook.com/tech-@)

Copyright 2020 | Terms & Conditions | Privacy Policy | All Rights Reserved