



# Department of B.Sc. Biotechnology, Chemistry & Genetics



## Vision & Mission

### vision:

Empowering future leaders in biotechnology to transform lives and communities through innovative research and education.

Becoming a global hub for biotechnology excellence, driving discovery, entrepreneurship, and sustainable solutions.

### Mission:

To deliver world-class biotechnology education, fostering a culture of innovation, collaboration, and social responsibility.

To advance biotechnology research, education, and application, improving human health, environmental sustainability, and economic growth.

The Department of Biotechnology (UG) has been a forerunner in the state in its field. It quickly became one of the more popular departments in the Academy because of the opportunities it provided to both its students and its faculty. The department of Biotechnology draws its strength from its faculty, with doctoral qualifications and competent to academic, research and industry-oriented experience. The department also has professors and visiting scientists working in various fields like green synthesis of nano particles, anti-microbial and anti-cancer, biofuels, bioremediation and wastewater treatment biomedical research, genomics and proteomics, bioinformatics, and Agricultural biotechnology. With six well-equipped laboratories to different subjects' areas and, one research center with international standard, and bio informatics facility with the latest molecular modelling and drug design software, the department takes pride in filing patents and IP in collaboration with the industry.

## Courses Offered

BSc. Biotechnology (3yr) highlights: Cell Biology, Microbiology Genetics  
Animal Biotechnology  
Bioprocess and fermentation technology  
Bioinformatics and Medical Biotechnology

## Unique Features of Our Program

- 6 laboratories with state of art facilities
- 1 research lab with high end equipment like HPLC, ELISA, UV-VIS Spectrometer with double beam, PCR, RT-PCR.
- Students are encouraged to do research projects
- Faculty with post-doctoral and doctoral degrees with academic, research and industry expertise.



## Higher Education Prospects

- MSc. Biotechnology
- MSc. Molecular genetics
- MBA in Healthcare
- MSc. Chemistry
- MSc. Clinical embryology
- MSc. Developmental Biology

## Admission eligibility

candidate must have passed 10+2/Intermediate with 60% in Bipc

## Career Opportunities

- Research Scientist
- Biotech engineer
- Geneticist
- Pharmaceutical Scientist
- Clinical research coordinator
- Embryologist

## Why Loyola Academy?

NAAC Accredited and recognized for academic

Strong industry connections ensuring top-notch placements.

Innovation-driven approach with a focus on emerging technologies.



# B.Sc. Biotechnology, Chemistry and Genetics

SEM 1

SEM 2

SEM 3

SEM 4

SEM 5

SEM 6

## SUBJECTS

- GENERAL ENGLISH-I
- VALUE EDUCATION AND PERSONALITY DEVELOPMENT
- CELL AND MOLECULAR BIOLOGY
- GENETIC ANALYSIS
- BIOCHEMISTRY & METABOLISM CHEMISTRY-I

## SUBJECTS

- GENERAL ENGLISH II
- INDIAN HERITAGE AND CULTURE
- MOLECULAR GENETICS
- IMMUNOLOGY
- MICROBIOLOGY
- CHEMISTRY-II
- PLANET

## SUBJECTS

- GENERAL ENGLISH-III
- EVS AND GENDER SENSITIZATION
- BHARATIYA KNOWLEDGE ECOSYSTEM
- BIostatISTICS
- GENETIC ENGINEERING
- PLANT BIOTECHNOLOGY CHEMISTRY-III

## SUBJECTS

- GENERAL ENGLISH- IV
- BIO- ANALYTICAL TECHNIQUES
- AGRICULTURE BIOTECHNOLOGY
- HUMAN GENETICS
- BIOINFORMATICS AND ROLE OF AI IN BIOLOGY
- MEDICAL BIOTECHNOLOGY
- CHEMISTRY-IV

## SUBJECTS

- BIOTECHNOLOGY ENTREPRENEURSHIP AND INNOVATION
- STEM CELL BIOLOGY AND REGENERATIVE MEDICINE
- ENVIRONMENTAL & CLIMATE SMART BIOTECHNOLOGY
- FOOD BIOTECHNOLOGY
- RESEARCH METHODOLOGY
- BIOETHICS AND BIOSAFETY
- ANIMAL BIOTECHNOLOGY
- BIOPROCESS AND FERMENTATION TECHNOLOGY
- CHEMISTRY-V

## SUBJECTS

- GREEN AND BIO-ORGANIC & INORGANIC CHEMISTRY
- SYNTHETIC BIOLOGY
- HEALTHCARE MANAGEMENT
- FUNDAMENTALS OF GENOMICS AND PROTEOMICS
- DISSERTATION

## EXTRA CURRICULAR ACTIVITIES

- SPORTS
- AICUF
- MAGIC YOUTH
- RESONANCE
- NCC
- NSS

## STUDENT SUPPORT

- ACADEMIC COUNSELING
- MENTORING
- GENERIC ELECTIVE
- SELF STUDY

## NON-CGPA COURSES

- PLANET
- NPTEL
- BRIDGE COURSES

## STUDENT CENTRIC METHODS

- MINOR PROJRCTS
- INTERNSHIPS
- RESEARCH PAPERS
- POSTER PRESENTATIONS
- GROUP DISCUSSIONS / SEMINARS/DEBATES