



MGMUNIVERSITY
AURANGABAD



INSTITUTE OF BIOSCIENCES & TECHNOLOGY
PROFESSIONAL PG-DEGREE PROGRAM
M.SC. (BIOTECHNOLOGY)

Professional Degree Awarded	M.Sc. Masters of Science
Duration of the Degree Program	Two Years Research Program
Semester	Four (4)
Intake	20
Tuition Fee	Rs. 1,00,000/-

PROGRAM OVERVIEW

- This Master's course is designed to provide the training and development necessary to meet demand for highly skilled scientists within the expanding global bioscience sector. It can lead to a wide range of careers including academic, commercial, industrial and healthcare applications of biotechnology.
- This Master's course is designed to enhance your knowledge of the molecular, biochemical, cell biological and genetic techniques underpinning modern biotechnology and how they can be used to solve real world problems and benefit society.
- You will learn how to turn scientific discoveries into inventions and commercial products through this course taught jointly by the Faculty of Biology, Medicine and Health.

PROGRAM DESCRIPTION

- The program aims to provide hands-on practical experience of both laboratory work and biotechnology techniques. It trains the students in biotechnology research strategies and develops their understanding of the nature of bioscience knowledge and research, opportunities for innovation, regulatory requirement constraints, intellectual property and ethical issues.
- It enables you to learn about the science behind Biotechnology while also looking at how to succeed in a career in the bio industry.

- You will learn how new start-up Biotechnology companies are created, as well as about exploring the market potential of products and processes, creating business plans and raising wealth from venture capitalists.
- Our group enterprise projects, which involve close collaboration with entrepreneurs, provide a great opportunity for you to stand out from other graduates.

SPECIAL FEATURES

- Laboratory work, lectures, seminars and workshops to support the students in their area of research.
- Workshops, lectures and group sessions on intellectual property, knowledge transfer and commercialisation in the life sciences.
- Industry-relevant teaching, and resources ranging from modern library and computing facilities to dedicated career advice and an impressive Students' Union activities.
- Strong foundation built on theoretical knowledge and specialized practical training
- Exposure to various fields of life sciences with its application in Biotechnology.
- Designed to develop an inclination for entrepreneurship
- Exposure to next-generation technologies
- Basic and advanced academic, research, and industry-based curriculum consisting core, advanced, optional, and specific courses for the holistic development of students in life science
- Preparing the students for campus recruitment

PROGRAM STRUCTURE

- Two-year program with 68 choice-based credits to equate the professional degree
- Specialized experimental training with special attention to each individual through the 'Exploration Workshop'
- Special Open Elective course for students per semester
- Specialized labs with highly automated instruments
- Interactive learning with e-classrooms
- A complete package with an idea about various fields associated with biotechnology and life sciences
- As a final year student, you will have an opportunity to undertake a project in the labs of our world-class bioscience researchers. To support our research, we have extensive research facilities equipped with high-quality technology.

PROGRAM CONTENTS

- The new curriculum shall provide ample opportunity to the students to specialize in several different areas of Concepts and Principles of Genetics, Principles & Practice of Biotechnology, Principles of Population Genetics, Biotechnology Approaches for Quality Traits, Introduction to Cytogenetics, Advances in Quantitative Genetics, Radiobiology & Mutation Breeding, Biotechnological tools For Crop Improvement, Plant Breeding for Environmental Stress Resistance, Plant Cell Culture & Plant Transformation, & molecular Genetics in last year Research program etc. Understand how genetic modification and genome editing contribute to contemporary medical and commercial research.
- In this program, you will learn about genome editing technology (CRISPR) and the possibility of adjusting the genome to achieve desired goals and overcome global health challenges. Strengthen your analytical ability, gain confidence in critical evaluation, and build competence in interpreting bioscience data.

TEACHING AND LEARNING

- We use a range of teaching and learning methods, including lectures, tutorials, seminars and workshops.
- Education is by theory, practical, tutorials, seminars and supervised research projects. On this program you'll be taught by our proficient academician, well known scientist, industrialist from lecturers through to professors.
- The syllabus is based on bloom's taxonomy. Students will learn through practical orientated coursework, well-equipped digital lecture hall, Computer lab, Seminar hall, Workshop, problem-based learning etc.

LEARNING FACILITIES

Our modern teaching labs are equipped for a range of Biotechnology. The following are just a few of the techniques you could undertake during your degree:

- Polymerase chain reaction (PCR); DNA sequencing; gel electrophoresis; Spectro-photometry; dissection and histology; etc.
- Our computing facilities include access to over 200 PCs in dedicated clusters and e-learning tools including online lecture notes, discussion boards, lecture podcasts and quizzes.
- You will also have access to the University's other facilities for undergraduate students.

RESEARCH FACILITIES

- We have specialised labs & instruments for better knowledge and understanding of students.
- We also have different instruments like PCR, RT-PCR, HPLC, Nanospectrometry, Spectrophotometer, Fluorescent Microscope.
- Our research offers a significant contribution to a number of global challenges. Discover how our research projects make a tangible difference to the way we live.
- Find a specific member of our academic or professional services staff, as well our research students. Alternatively, browse the teams in our research centres.
- Our facilities and services cater for a wide range of needs, and include library services.
- Final year topics reflect the current hotspots of bioscience endeavour and the research interests of our staff, and are constantly being updated. You will undertake an independent in-depth research project that may involve supervised practical work in a laboratory, or you may choose to work on e-learning, educational, data analysis, enterprise topics.

COURSEWORK AND ASSESSMENT

- The research project is assessed by a written report presented in a format suitable for publication in a scientific journal.
- The relative weightage to the various examinations conducted, Course work, Group project, lab report, oral examination, poster presentation, research project, case study, study tour, Unit test, Quiz, Home Assignment, Seminar and record maintained during a semester shall be as under both for Program.
- Assessment is by Program work and written Semester End Examination which take place at the end of each semester.

DISABILITY SUPPORT

Practical support and advice for current students and applicants is available from the Disability Advisory and Support Service. Email: admin@mgmibt.com

PLACEMENTS AND CAREER OPPORTUNITIES

The combination of research skills will ensure you are well-equipped for career opportunities in the global biotechnology market.

Our graduates may choose to work in industry, academia or to work for a biotechnology company. Career options include working as a microbiologist in the food industry, a geneticist in the field of medical research, or one of many other possibilities, such as in the pharmaceutical or agriculture sector.

You are not limited to the biotechnology industries, however, and may go into a variety of careers. Find out more about how we help our students prepare for the workplace and the careers our post graduates go into within and outside the lab.

ALUMNI

Our students are placed in different companies like Serum Institute, Pfizer, Wockhardt, Mahyco, Bejosheetal, Ajit seed, Serum, Lupin, Biocon, Aptuit Informatics, Bigtec, Biolmages India, Innoplexus, Genotype, Helix Infosystem, Mascon life Science, Novo Informatics, Krushidhan, Ocimum BioSolutions, Infosys, Wipro, Dr. Reddy's Lab, GlaxoSmithkline, Novozymes, FDC, Harman, Panacea Biotech, Reliance Life Sciences, Bioera, Ankur seeds, Nath Seeds, Sygene International, Monsanto India, DuPont, Nuziveedu Seeds, Jindal Seeds, Advanta Limited, Rallies India, Metahelix, Springer, Krushidhan, Dr. Reddys, Biocon, National Institute of Virology, National Chemical Lab, Government agriculture department and university, Government and private colleges etc.

INDUSTRY COLLABORATION

At the MGMUIBT we know the value of working together. We break down barriers and get involved; we collaborate across disciplines, cultures to solve state, national and global problems; and we transform people's lives by making positive change across India and the world.

Partner with us today, and discover what a difference we could make to your-our-future. We engage with big companies to small scale companies like Mahyco, wockhardt, Metahelix, Jindal seeds, Ulman Lab, Matrix Life sciences, Probus, CFTRI, NIN, CIFE.

Contact us

Admission: <https://mgmu.ac.in/admissions/>

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MGM University, established by the widely revered Mahatma Gandhi Mission Trust, is a self-financed State University. It has the 2(f) status of the University Grants Commission of India (UGC) and is approved by the Government of Maharashtra.

MGM Institute of Biosciences & Technology is a constituent college of **MGM University** from 2019. The institute has excellent infrastructure, and students can access all the facilities, in the areas of sports and culture, in the environs of the green, safe, and eco-friendly, **MGM Campus**.