

Postgraduate Programmes

Entry requirements

DOCTOR OF PHILOSOPHY

A Master's Degree from Universiti Teknologi Malaysia or any other Institutions of higher learning recognised by the Senate ; or other qualifications equivalent to a Master's degree and experience in the relevant field recognised by the Senate ; or Candidates who are currently registered in a Master's Degree programme at Universiti Teknologi Malaysia, and approved by the Graduate Studies Committee of the respective faculty and the Senate.

MASTER'S DEGREE

A Bachelor's Degree with good honours from Universiti Teknologi Malaysia or any other institutions of higher learning recognised by the Senate ; or A qualification equivalent to a Bachelor's Degree and experience in the relevant field recognised by the Senate.

Postgraduate Programme Overview

The Department of Biosciences offers 3 postgraduate programmes that lead to the award of postgraduate degrees (Master or Doctor of Philosophy) in Biosciences and Master of Science Specialization: Biotechnology.

Master of Science (Biotechnology) :

This programme is offered by mixed mode. The programme is offered in full-time and can be completed within three semesters (1 1/2 years).

Master of Philosophy Field of Research : Bioscience is offered full-time. A student will carry out research in chosen areas. Each research project will be supervised by a Faculty Member.

Doctor of Philosophy Field of Research : Bioscience is offered full time. Students will carry out research in any of the chosen areas.

Research Fields

Environmental Biotechnology, Plant Biotechnology, Medical Biotechnology, Industrial Biotechnology, Genomics and Proteomics, Bio-nanotechnology, Molecular Biology & Bioinformatics

Facilities

The Department of Biosciences houses many scientific facilities and laboratories to support the ongoing teaching and research activities. Laboratories in the Department of Biosciences consists of teaching laboratories, research laboratories and service laboratories. The Department of Biosciences is also well equipped with state-of-art scientific equipments such as Portable Photosynthesis System, Cryotome and Microtom, Gradient and Real Time PCR, Gel Documentation System, AKTA Prime System for Protein Purification, Isothermal Titration Calorimetry, Fluorescent Microscope, ELISA Reader, Safety Cabinet, High Performance Liquid Chromatography (HPLC), Gas Chromatography-Thermal Conductivity Detector (GC-TCD), Denaturing Gradient Gel Electrophoresis (DGGE), Nano Drop, Freeze Dryer and High Speed Centrifuge.

Career Prospects

Where can graduates position themselves in the future?

- Academician
- Microbiologist
- Research Officer
- Clinical Manager
- Environmental Officer
- Quality Assurance Officer
- Postdoctoral Researcher
- Corporate Learning Advisor
- Biotechnology Engineer
- Professional Editor
- Bio-entrepreneurs
- Enforcement Officer
- Lab Analyst & Executive
- Underwriting Associate
- Equipment/Chemical Specialist
- Biomanufacturing Associate
- Product Specialist
- Consultant
- Regulatory Affairs Specialist

For Further Information, please visit the following websites :

UG entry requirement (Malaysian) :

<https://admission.utm.my/entry-requirements-ug-malaysian/>

UG entry requirement (International) :

<https://admission.utm.my/entry-requirements-ug-international/>

PG entry requirement (Malaysian) :

<https://admission.utm.my/postgraduate-entry-requirements/>

PG entry requirement (International) :

<https://admission.utm.my/int-pg-entry-requirements/>



<https://science.utm.my/> | <https://admission.utm.my/>

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DEPARTMENT OF BIOSCIENCES

FACULTY OF SCIENCE

... where great minds are nurtured



Overview



Bioscience is the study of living organisms, from the largest mammals and plants to the tiniest cells and microorganisms. Bioscience has numerous branches, ranging from Biology and Biotechnology to more niche and specific areas such as Bioinformatics and Microbiology. At the Department of Biosciences, the main fields in Bioscience have been categorized into 8 main academic panels which are Biochemistry, Microbiology, Environmental, Eukaryotes (Animal & Plants), Molecular Biology, Industrial Biotechnology, Protein Bioinformatics and General Bioscience/Biotechnology.

Programmes Offered

Undergraduate Programme Overview

The Department of Biosciences offers a four-year honours degree with two major academic programmes in Biology and Biotechnology.

› Bachelor of Science Biology with Honours

- This programme is designed to cover both traditional and modern biology emphasizing on fundamental and advanced knowledge of life and living organisms. The curriculum is designed to equip students with fundamental theories and technical skills that are important in bio-based industry. Two modules are offered; Environmental Science & Cell and Molecular Biology. The programme implements Research Infused Experiential Learning (REAL), under the MOHE's Experiential Learning and Competency-based education landscape (EXCEL) framework. To ensure the Programme sustainability, elements of SDG and 4IR are embedded in selected courses.

› Bachelor of Science in Biotechnology with Honours

- This programme focuses on providing a strong academic foundation in using of living organism in innovative ways, and how they can be applied in biotechnology, such as industrial, agricultural, and medical fields. The curriculum offers diverse knowledge and technical skills in wide range of biotechnology concept. Moreover, the program emphasizes Industry Driven Experiential Learning (IDEAL), which is a part of the MOHE's Experiential Learning and Competency-based Education Landscape (EXCEL) framework. Selected courses in the program address relevant SDG and 4IR elements that pertain to the current biotechnology scenario.

Undergraduate Programmes Entry Requirements

Minimum Entry Requirements for STPM/Matriculation/Foundation/Diploma & Equivalent Holders :

University General Entry Requirements :

- Passed the Malaysian Certificate of Examination (SPM) or equivalent with a credit in Bahasa Melayu/Bahasa Malaysia or a credit in Bahasa Melayu/Bahasa Malaysia, July paper and passed History subject effective from year 2013 ; and
- Passed the Malaysian Higher School Certificate (STPM) and obtained at least CGPA of 2.00 with Grade C in THREE (3) subjects including General Studies ; or
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- Passed the Malaysian Higher School Certificate (STPM) and obtained a CGPA of at least 2.00 with Grade C in THREE (3) subjects including General Studies or Passed Ministry of Education Malaysia (MOEM) Matriculation/UM Science Foundation/UKM Foundation/UiTM Foundation with a CGPA of at least 2.00 ; or
- Obtained UA/ILKA/US or other equivalent Diploma approved by the Government of Malaysia and the University Senate (special programme entry requirements according to the types of programmes offered) ; and
- Obtained at least Band 1 in the Malaysia University English Test (MUET). The validity period for MUET is FIVE (5) years from the date of the MUET result.

Programme Entry Requirements : STPM/Matriculation/Foundation Holders

- Obtained a CGPA of at least 2.80 at STPM/Matriculation/Foundation level ; and
- Obtained at least Grade B (CGPA 3.00) in Biology at STPM/Matriculation/Foundation level ; and
- Obtained at least Grade C+ (CGPA 2.33) in any TWO (2) of the following subjects : Chemistry, Mathematics and Physics ; and
- Passed with a credit in Mathematics (Grade C) at the Malaysian Certificate of Examination (SPM) level or equivalent ; and
- Obtained at least a Band 2 in the Malaysian University English Test (MUET) ; and

Diploma Holders

- Obtained a Diploma from UTM or any other institutions approved by the Government of Malaysia and related to the applied course with a CGPA of at least 3.00 ; or
- Other equivalent qualifications approved by the Government of Malaysia and the University Senate and related to the applied course with a CGPA of at least 3.00 ; or
- Candidates who obtained with a CGPA of less than 3.00 but have at least TWO (2) years working experience in the related field are eligible to apply ; and
- Passed with a credit in Mathematics (Grade C) at the Malaysian Certificate of Examination (SPM) level ; or
- Obtained at least Grade C in any of Mathematics subjects at Diploma level ; and
- Obtained at least a Band 2 in the Malaysian University English Test (MUET) ; and
- Candidates have no physical disabilities (e.g. blind/color blindness/paralysed which may cause difficulties in lab work).

