



# BACHELOR OF SCIENCE IN PHYSICS (HONOURS)

[N/0533/6/0001] 03/27 [MQA/FA12947]

## DURATION

4 years

## INTAKE

February/ April/ September

## MEDIUM OF INSTRUCTION

English

## ABOUT THE PROGRAMMES

The Bachelor of Science in Physics programme at Xiamen University Malaysia offers a unique interdisciplinary educational experience that mirrors the best practices from leading universities around the world. The programme is designed to meet the needs and aspirations of young graduates in adapting to the modern era of disruption, by equipping them with strong foundations of scientific knowledge, spirit of inquiry and passion for study and work. The programme provides international exposure and fosters collaboration network with the wider physics community from the east and west.

Students will undergo two years of solid foundational training in mathematics, classical mechanics, electrodynamics, thermodynamics, and quantum mechanics. In the next two years, they would have the flexibility and opportunity to explore courses from physics (including astrophysics), or other disciplines such as engineering, finance, and humanities. In addition, the programme offers one semester of undergraduate research module, and one semester of research internship, on top of the final year thesis.

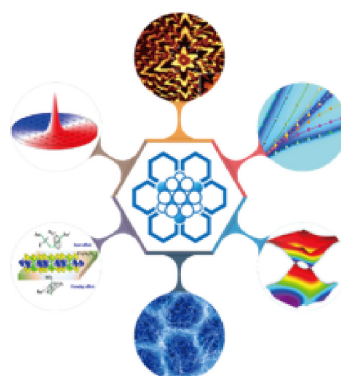
The programme has forged partnerships with renowned European and Asian universities and institutions abroad for opportunities in academic, research and cultural exchanges, which allows participating students to gain immersion and exposure to a wider global scientific community in both learning and living experience.

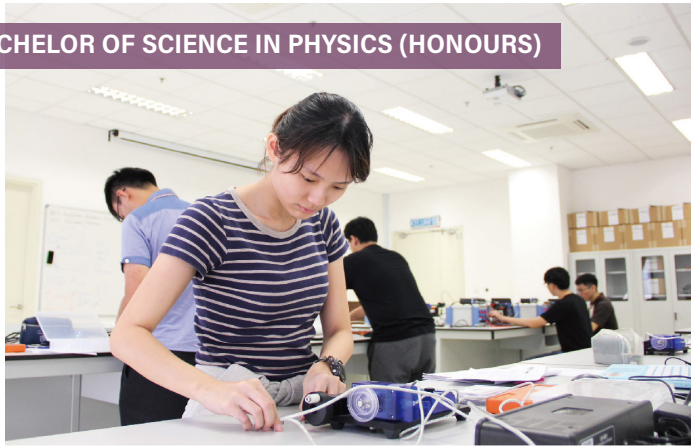
## PROGRAMME HIGHLIGHTS

- ▶ Unique syllabi that retain the essence of traditional physics and explore modern applied physics disciplines
- ▶ Interdisciplinary curriculum that prepares versatile graduates for future-proof employment
- ▶ Research-focused curriculum that prepares graduates for further education opportunities and frontier science careers
- ▶ Unique experience of educational and cultural exchange from the east and west

## CAREER OPPORTUNITIES

- Research Physicist
- Research Technologist
- Semiconductor Technologist
- Instrumentation Technologist
- Materials Scientist
- Computational Scientist
- Science Educator
- Science Communicator
- Science Administrator
- Science Consultant
- Financial and Banking Analyst
- Game Physics Programmer





ENTRY REQUIREMENTS

\*For other equivalent qualifications, please consult our programme counsellor

STPM	A pass in STPM with at least a Grade C (GP 2.0) in Physics and Mathematics
A-LEVEL	A pass in A-Level with at least a Grade C in Physics and Mathematics
UEC	A pass in UEC with at least a Grade B in 5 subjects including Physics and Advanced Mathematics
Foundation/Matriculation	A pass in Foundation/Matriculation with a CGPA of 2.0 or above (out of 4.0) AND at least a Grade C (GP 2.0) in Physics and Mathematics subjects
Diploma	A pass in Diploma with a CGPA of 2.5 or above (out of 4.0) AND a GP of at least 2.0 in Physics and Mathematics subjects

MAIN COURSES

YEAR 1

- Mechanics
- Thermal Physics
- Electromagnetism
- Modern Physics
- Calculus I
- Calculus II
- Linear Algebra
- Ordinary Differential Equations
- Python Programming Language
- Physics Lab I
- Physics Lab II

YEAR 2

- Theoretical Mechanics
- Quantum Mechanics I
- Electrodynamics I
- Principles of Optics
- Mathematical Methods in Physics I
- Numerical Methods
- Probability and Statistics B
- Physics Lab III
- Physics Lab IV
- Major Electives

YEAR 3

- Thermodynamics and Statistical Physics
- Industrial Training
- Major Electives

YEAR 4

- Final Year Project I
- Final Year Project II
- Major Electives

Major Electives

- Astronomy
- Electronic Circuits
- Undergraduate Research I
- Electrodynamics II
- Solid State Physics
- Astrophysics
- Atomic and Molecular Physics
- Photonics and Optoelectronics
- Quantum Mechanics II
- Mathematical Methods in Physics II
- Quantum Information
- Cosmology
- Nuclear and Particle Physics
- Semiconductor Physics and Devices
- Relativity
- Nanoscience and Nanotechnology

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