

- ii) proof of publication in a related field; **or**
3. a professional qualification from a recognized professional body; **or**
4. any other qualifications approved by the Senate.

COURSE MODULE

| Core Courses (12 credits) | |
|--|--|
| SHGC6105 | Introduction to Modern Theory of Matter (3) |
| SHGC6106 | Physics of Solid State Materials (3) |
| SMGS6111 | Measurement Techniques and Instrumentation (3) |
| SMGS6343 | Materials Science (3) |
| Elective Courses (choose at least 12 credits) | |
| SHGC6301 | Ceramics and Composites (3) |
| SHGC6307 | Polymeric Materials (3) |
| SMGS6341 | Semiconductor Devices (3) |
| SMGS6411 | Semiconductor Technology (3) |
| SMGS6412 | Photonics Technology (3) |
| SMGS6342 | Optoelectronics (3) |
| SMGS6413 | Advanced Materials Science (3) |
| SMGS6344 | Plasma Technology (3) |
| SMGS6414 | Plasma Devices (3) |
| Research Proect (12 credits) | |
| SHGC6180 | Research Project (12) |

APPLICATION FOR ADMISSION

Students wishing to apply for admission to taught Masters degree programmes must do so in good time (about three months) before the commencement of Semester I (in the month of May) or Semester II (in the month of November) in any given academic session. However, fees are required to be paid on a semester basis.

For further information, please contact:

Head
 Department of Physics
 Faculty of Science
 University of Malaya
 50603 Kuala Lumpur
 Malaysia

Tel: 603-79674206/4385 Fax: 603-79674146
 E-mail: ketua_fizik@um.edu.my
 E-mail: hasanak@um.edu.my
 Website: <http://fizik.um.edu.my>

Programme Coordinator:

Assoc. Professor Dr. Rustam Puteh
 (Coordinator)
 Department of Physics
 Faculty of Science
 University of Malaya
 50603 Kuala Lumpur
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Tel: 603-79674206 Fax: 603-79674146
 E-mail: rustam@um.edu.my

Applications must be made using the appropriate application form obtainable from:

The Post Graduate Admissions Unit
 Institute of Postgraduate Studies
 University of Malaya
 50603 Kuala Lumpur
 MALAYSIA

Tel: 603-79674600/4601 Fax: 603-79568940/79674606
 E-mail: unitmas@um.edu.my
 Website: <http://ips.um.edu.my>



UNIVERSITI MALAYA



**MASTER OF TECHNOLOGY
 (MATERIALS SCIENCE)**

Postgraduate Degree by Coursework
 and Dissertation

Department of Physics
 Faculty of Science
 University of Malaya
 50603 Kuala Lumpur
 MALAYSIA

Master's Degree

INTRODUCTION TO FACULTY

The Faculty of Science is one of the first faculties to be set up at University of Malaya in 1959. Today, it has a student population of more than 5000 with a thriving postgraduate community that is multi-national. Over 95% of its academic staff have a PhD qualification and the faculty continues to build on their talent and experience to enhance the quality of its research and teaching. Research findings by members of the faculty are published in refereed local and international journals. In addition, the Faculty is known for its cutting-edge research which is supported by well-equipped laboratories and advanced equipment and facilities.

The Faculty has two institutes and four departments: the Institute of Biological Sciences, Institute of Mathematical Sciences, Department of Chemistry, Department of Geology, Department of Physics and Department of Science and Technology Studies.

The Department of Physics

The Department of Physics has seen tremendous growth since its inception in 1959. The academic staff members are actively involved in many areas of physics research. The strength of the Department lies in the areas of solid state physics, plasma physics, applied radiation, laser physics, photonics, solid state ionics, advanced materials, polymer physics, space physics as well as theoretical physics. The quality of research is of international standing with staff members regularly publishing in highly reputed international journals. Beside research, some of the staff members also carry out consultancy work for local as well as international companies such as Tenaga Nasional Research & Development (TNRD), Nippon Glass (Japan) and Ciba Vision (USA). All the academic and consultancy activities provide the essential background for postgraduate training.

FACILITIES (includes library)

The Department of Physics has a number of established research programs in both theoretical and applied physics. A large number of its staff are actively engaged in research in semiconductor technology, lasers and optoelectronics, advanced materials, plasma technology and applied radiation. Its specialist laboratories contain a range of sophisticated modern equipment, many of which have also been gainfully brought to the service of the industrial sector in the areas of materials testing and characterization.

The following are some of the major equipments for research on materials:

SEM, EDAX, TOF-SIMS-ESCA, XRD, STM-AFM, FT-IR, NIR, FT-Raman, X-ray spectrophotometer, PL, TLD reader, OMA

Fast diagnostic equipment:

Streak camera, fast digital oscilloscopes, spectrum analyzer, thin film growth systems, clean room and gas handling facility, high power lasers, pico-second lasers, high voltage and high current discharge systems, RF plasma sources, pulsed plasma neutron and x-ray sources, high dosage radiation sources and materials testing laboratories.

PROGRAMME

MASTER OF TECHNOLOGY (Materials Science)

Programme Objective:

This programme will comprise of taught courses and research based project. It comprises of 24 credits of course work (core and electives) and 12 credits for research project. Candidates must enroll for all compulsory courses and any four elective courses. This programme is designed to cater for:

- Recent graduates in material science or metallurgy who would like to extend their knowledge via an advanced course in order to enhance their career prospect.
- Graduates in other science or engineering subject who need a conversion in materials area.
- Those who have a number of years of experience in a material science related discipline and are seeking a post-experience advanced course.

The programme will equip students with a thorough understanding of advanced materials and techniques used for their characterization.

Period of Candidature:

- 3 semesters (minimum)
- 10 semesters (maximum)

LANGUAGE REQUIREMENTS

The medium of instruction is in English. International students are required to attend and pass a basic course in Bahasa Melayu before the degree can be conferred. If they intend to write their dissertation/thesis in English they must possess at least band 5 IELTS or a score of 550 TOEFL if they had obtained their Bachelor's degree from a university in which the medium of instruction is other than English.

ADMISSION REQUIREMENTS

Applicants should possess:

1. a Bachelor of Science degree with honours in Physics or equivalent; **or**
2. a Bachelor of Science in Physics with:
 - i) at least three years of relevant working experience; **or**