**NAME OF THE PROGRAMME: DOCTOR OF PHILOSOPHY (PhD) (APPLIED PHYSICS)**

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| Programme Type | Research |
| Status | Proposal |
| Start Date | August and January |
| Module | SP-6000 |
| Description | PhD in Applied Physics in the Physical and Geological Sciences Group, Faculty of Science (FOS), is a programme that fosters pure and applied advanced research in various areas of physics. PhD in Applied Physics includes conducting original projects with an international research impact, which incorporate modern techniques and methods, in a broad range of pure and applied research topics. Candidates are expected to work diligently and they should be able to perform integrated research under the supervision of Applied Physics staff members. They should be able to carry out analytical and experimental research and to collect and interpret the relevant data in a timely manner. The PhD candidates must also participate actively in research team meetings, as well as in symposia and conferences.<br><br>The programme is designed for qualified individuals, who wish to acquire advanced knowledge, as well as analytical and research skills in a discipline of Applied Physics related to Industry or Academia.<br><br>Moreover, our staff members have established research collaboration with other institutes from Europe and America and the involvement of students in such is highly encouraged. |
| Research Facilities | The Applied Physics Group is equipped with Scanning Electron Microscope equipped with Energy Dispersive Spectrometer, X-ray Fluorescence Analyser, X-ray Diffractometer, Impedance Spectrometer, as well as a fully equipped laboratory for material synthesis and device fabrication. |
| Degree Requirements | A written thesis is judged acceptable by the Board of Examiners. The thesis, based on the findings of an approved original research investigation, shall not normally exceed 100,000 words. As stipulated in the relevant UBD regulations, the examiners may subject a candidate to an oral examination or any other test they think necessary to assess the acceptability of the thesis. |
| Entry Requirements | At least a Master's Degree (or equivalent) from a recognized university in a relevant discipline, including but not limited to: Physics, Chemistry and Materials Science.<br>In exceptional cases, subject to the relevant UBD regulations, an applicant with a First Class Honours Degree or equivalent qualifications from a recognised University will be considered as a PhD candidate.<br>Subject to the relevant UBD regulations, and depending on the merits of each case, a MSc by Research candidate in a relevant field in UBD may be considered for conversion to PhD |

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| | candidature. Shortlisted applicants may be interviewed on a case by case basis. |
| Language Requirements | Relevant English language requirement stipulated by UBD. |

**Programme Details**

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| Aims and Scope | The PhD Programme in Applied Physics aims to make scientists with high level specialised training, in order to cover the increased needs of Industry, Research Institutions and Academia in related aspects.<br><br>The scope of the Programme is to educate students to become independent researchers, as well as to train them to develop advanced scientific skills and analytical capabilities. The candidates are also expected to become capable of designing scientific projects, to develop independent critical thinking and ability for proper scientific interpretations. | |
| Structure | Students conduct an approved, original research project, with the supervision of one or more staff members. Upon completion of their research, they submit a thesis, which normally does not exceed 100,000 words. | |
| Language | The thesis will be written in English | |
| Duration of Programme | Full-Time: minimum 36 months, maximum 60 months | Part-Time: minimum 48 months, maximum 84 months |
| Areas of Research/Specialisation | • Nanostructured functional materials for energy generation, conservation, efficiency and storage<br>• Advanced materials for lighting<br>• Dye-sensitized solar cells<br>• Solid polymer electrolytes for battery/solar cell applications<br>• Polymers and complexed fluids<br>• Wind energy<br>• Renewable energy modelling<br>• Energy conservation and management<br>• Non-destructive testing, evaluation and characterisation of materials<br>• Materials for energy and development<br>• Standards and conformity assessment of materials in use<br>• Energy Efficiency in Built Environments<br>• Energy Modelling<br>• Functional Materials<br>• Fibre laser designs<br>• Robotics<br>• Solid oxide fuel cells<br>• Photoelectrochemistry<br>• Solar Fuels<br>• Photovoltaics<br>• Batteries<br>• Electrochromics | |

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| | More areas will be provided upon arrival of new staff | | | |
| Attendance Type | Full-Time/Part-Time | | | |
| Period of Candidature | Ful-Time: | 12-24 months | Part-Time: | 24-48 months |
| Assessment | Assessment includes examination of the thesis by internal and external examiners. As stipulated in the relevant UBD regulations the examiners may subject a candidate to an oral examination or any other test they think necessary to assess the acceptability of the thesis. Periodic assessment of the progress of the candidate is carried out as stipulated in the relevant UBD regulations. | | | |
| Demand | Applicants are expected to join the programme from Brunei Darussalam and overseas. The number of applicants is expected to increase in the future, as the programme develops a track record. | | | |
| Future Development | The programme is expected to attract students and to develop according to the demands of the community, the industry and the Academia. New supervisors that will join Applied Physics in UBD will also add new disciplines of research. Increasing number of interdisciplinary and transdisciplinary research is expected to be developed. | | | |

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| Major Areas | Materials Science, Photoelectrochemistry, Computational Physics and Chemistry, Energy Conversion and Storage, Energy Modelling and Energy Efficiency |

**For More Information**

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| Contact | Programme Leader in Physical and Geological Sciences, Graduate and Research, Faculty of Science (FOS), UBD |