

NAME OF THE PROGRAMME: DOCTOR OF PHILOSOPHY (PhD)
(COMPUTER SCIENCE)

Programme Type	Research
Status	Proposal
Start Date	August and January
Module	SS-6000
Description	<p>PhD in Computer Science in the Mathematical and Computing Sciences Group, Faculty of Science (FOS), is a programme that fosters pure and applied advanced research in various Computer Science areas. PhD in Computer Science include the elaboration of 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 Computer Science staff members. They should be able to carry out analytical and experimental research and to synthesise 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.</p> <p>The Programme is designed for qualified individuals, who wish to acquire advanced knowledge, as well as analytical and research skills, and significantly contribute to the advancement of Computer Science fields.</p>
Research Facilities	The Mathematical and Computing Sciences Group prefers using high quality open source tools.
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	<p>At least a Master's Degree (or equivalent) in Computer Science from a recognised University. In exceptional cases, subject to the relevant UBD regulations, an applicant with First Class Honours Degree or equivalent qualifications from a recognised University will be considered as PhD candidate.</p> <p>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 candidature.</p> <p>Shortlisted applicants may be interviewed on a case by case basis.</p>
Language Requirements	Relevant English language requirement stipulated by UBD.

Programme Details

Aims and Scope	The PhD Programme in Computer Science aims to make scientists with high level specialised training, in order to cover the increased
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	<p>needs of Industry, Research Institutions and Academia in related aspects.</p> <p>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 to design scientific projects, to develop independent critical thinking and ability for proper scientific interpretations.</p>	
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	<ul style="list-style-type: none"> • Intelligent Healthcare Systems • Wireless Sensor Integration and Fusion • Motion Capture and Reconstruction • Brain Machine Interface • Virtual Interfacing Technologies • Intelligent eLearning and web-based applications • Biologically-inspired Robotics: Swarm robotics, Collective Decision Making, Animal vs. Animal • Human-Robot Interaction: Human Safety in Human-Robot Cooperation, Human-Robot Swarm Interaction • Large-Scale Autonomous Systems: Modeling and Control of Dynamical Systems including Manipulators, Mobile Robots, Underwater and Aerial Robots • Modern Artificial Intelligence: Modular Robotics, Reconfigurable Building Blocks, Modular Sensor Networks, Tangible Games • Problem Based Learning: ICT-based PBL and Multicultural PBL • Compilers • Cryptography and computer security • Open source implementations • Graphics and visualisation • Database design and implementation • Server security • High performance computing • Mobile programming • Data mining: Cluster analysis, fuzzy clustering, biomedical or clinical informatics • Artificial intelligence: Applying heuristics in data mining • Personal robots • Ambient intelligence <p>More areas will be provided upon arrival of new staff</p>	
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 Computer Science in UBD will also add new disciplines of research. Increasing number of interdisciplinary and transdisciplinary research is expected to be developed.	

Major Areas	Robotics, Artificial Intelligence, Computer Security, Web and Mobile Applications
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For More Information

Contact	Programme Leader in Mathematical and Computing Sciences, Graduate and Research, Faculty of Science (FOS), UBD
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