UTM
UNIVERSITI TEKNOLOGI MALAYSIA

KERANA TUHAN UNTUK MANUSIA · UNIVERSITI TEKNOLOGI MALAYSIA

Razak Faculty of Technology and Informatics

Doctor of Philosophy

MQA/SWA0646, MQA/SWA0302, MQA/SWA0809

" LEADING ADVOCATE FOR THE MULTI-DISCIPLINARY INDUSTRY-DRIVEN RESEARCH "

http://razak.utm.my

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razakfaculty@utm.my

+603-2180 5143/5146/5193/5217

Level 7, Menara Razak,
Universiti Teknologi Malaysia,
Kuala Lumpur, MALAYSIA

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PROGRAMME OVERVIEW

Research-based courses encourage you to follow your passion in a welcoming atmosphere while working with some of our brightest minds. If you're enthusiastic about tackling global problems and engaging with some of your discipline's brightest minds, then UTMRazak is where your thoughts and activities will build traction. Our researchers have a special goal: to change lives. That's why they continually seek solutions, search beyond conventional boundaries, and find ways to solve some of the most pressing problems facing society. Dream about the social change you want to see and let's make it happen. We want as many bright minds as possible to experience UTMRazak education. If you have the talent and motivation, our doors are open.

Taking up independent study through the Doctoral Program is one of the most daunting and fulfilling opportunities we can deliver. The curriculum consists of an lengthy, independent research project in your chosen discipline, supervised by dedicated academic supervisor during your candidacy. Your research will lead to a thesis report which contributes valuably to the current knowledge of your specific topic.

CORE COURSES

Research Methodology
1 University General Course

- Full-time Research

- Intake: February, May, September and November

- Min Duration: 3 years (6 semesters)
  Max Duration: 8 years (16 semesters)

- Research in UTM
  Remote-supervision

- Every semester: Research Progress Report
  Third semester: Proposal Defense
  End of Study: Viva Voce

ENTRY REQUIREMENTS

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 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.

Additional requirement for International Applicants
An English Certificate of IELTS with the minimum band of 6.0 OR TOEFL with the minimum score of 550

Department of Engineering & Technology

INTRODUCTION

Be part of our deeply motivated group of engineering and technology researchers and academics dedicated to a prosperous future for everyone.

CAREER OPPORTUNITIES

The highly flexible degree covers the planning, design, check and act spectrum from engineering and technology operations through to top management decision making. It will prepare you for roles such as:

- Engineers
- Academician
- Researcher in R&D companies
- Business and Management in engineering areas
- Advisor Managerial position in engineering consultant

RESEARCH CLUSTERS

Our researchers are working on a broad range of areas in engineering and technology such as:

CIVIL ENGINEERING
- Building Infrastructure
- Civil and Structural Engineering
- Coastal Engineering
- Construction Management
- Environmental Engineering
- Geospatial Intelligent
- Geotechnical Engineering
- Green Technology
- Groundwater Engineering
- Hydraulics and Hydrology
- Hydrographic Surveying
- Ocean Engineering
- Ocean Thermal Energy Conversion
- Renewable Energy Engineering
- Soil and Water Engineering
- Solid Waste Management
- Water Resources Engineering and Management

ELECTRONICS AND ELECTRICAL ENGINEERING
- Biomedical Engineering
- Biosignal and Image Processing
- Broadband Multimedia
- Communication and Networking Engineering
- Electronic Systems
- Engineering Education
- Instrumentation Engineering
- Photonics and Fiber Optics System
- Power and Control System
- Power Systems
- Systems Engineering
- Telematics and Wireless Network

MECHANICAL AND MANUFACTURING ENGINEERING
- Aeronautic Engineering
- Corrosion Engineering
- Design for Six Sigma
- Ergonomics
- Finite Element Simulation and Modelling
- Fluid Mechanics
- Industrial Engineering
- Instrumentation and Control
- Lean Materials Engineering
- Maintenance Engineering and Condition Monitoring
- Manufacturing Process and System
- Materials and Material Processing
- Mechanical and Manufacturing Engineering
- Noise and Vibration
- Occupational Safety and Health
- Operation Management and Industrial Engineering
- Project Management and Engineering
- Quality Management and Robust Engineering

UTM has helped me a lot with financial support; either through grant or allowance, hardware and software support system, great supervision by lecturers, and very good management by SPS to ensure all registered student finished their studies with flying colours. It's normal to have a few trials throughout the study, just to give a valuable experience that will be beneficial later on.

DR FADHILAH ABD RAZAK
Research Officer
Universiti Teknologi Malaysia

My PhD research area was about Hydraulic Modelling Tool in Malaysia Sewerage. This qualification has increased my capability level in managing my section and also proven to the upper management that academic qualification is as important as any other professional registration.

DR AFIFA SAFIRA A. GHANI
Manager
Indah Water Konsortium Sdn Bhd

Department of Science, Management & Design

INTRODUCTION

Ready for the next step in your career? Prepare for the challenge with us. Stand out in the global marketplace by approaching business issues with a broader perspective and an enterprising mind-set through our unique science, management and design research.

CAREER OPPORTUNITIES

The highly flexible degree covers many angles in science, management and design areas. It will prepare you for roles such as:

- Scientist
- Facilities Manager
- Universal Designer
- Real Estate Valuator
- Programme Manager
- Rural/ Urban Designer
- Project Planning Manager
- Strategic Planning Manager
- Corporate Planning Manager
- Engineering/STEM/TVET Educator
- Social and Enterprise Entrepreneur

RESEARCH CLUSTERS

Our researchers are advancing knowledge in:

SCIENCE

- Analytical Chemistry
- Applied Mathematics
- Chemistry and Nanotechnology
- Chemo-informatics
- Computational Chemistry
- Mathematics

DESIGN

- Design Theory and Methodology
- Green Building Technology
- Historic Urban Landscape
- Industrial Design
- Regional and Rural Planning
- Regional Environment Systems
- Sustainable Tourism
- Sustainable Urban Design
- Transportation Design
- Universal Design
- Urban Planning
- Urban Studies

MANAGEMENT

- Accounting
- Applied Econometrics in Social and Behavioural Studies
- Asset and Property Management
- Banking, Law and Taxation
- Business Management
- Corporate Governance and Ethics
- Economic Development, Trade and Policy
- Economics Education
- Entrepreneurship
- Ethnics Relation in Malaysia
- Facilities Management
- Food Security
- Human Resource Development
- Human Resource Management
- Learning Strategies
- Malaysian Culture
- Marketing and Consumer Studies
- Organisation Management and Behaviour
- Organisational Performance Management
- Organizational Development and Change
- Political Science
- Project Management
- Quality and Productivity Improvement
- Real Estate and Valuation
- Small and Medium Enterprise
- Social Enterprise
- Technology entrepreneurship
- TVET and STEM Education
- Workplace Learning
- Zakat and Taxation

> " I loved UTM from first sight. It's significant and enjoyable for me to spend three years of PhD in Human Resource Management in UTMRazak. Here, lecturers treat me sincerely, students care, and help me; it also has beautiful tropical sceneries and many enthusiastic Malaysian people. This land has broadened my horizons, increased my knowledge, and made me experience different cultures. I have grown up here and become more confident and sunny. UTM is forever my home. I love UTM, and I love Malaysia. "

DR AMANDA DUAN
Lecturer
Beifang University of Nationalities, China

Department of Informatics

INFORMATICS

We are certain that the next generation of computer scientists must have the capacity to invent and develop innovations that enhance people's quality of life. This greatly influences our research strategy. If you're excited to apply your IT expertise and create people-centered technologies that support communities and societies, UTMRazak is your spot.

CAREER OPPORTUNITIES

The highly flexible degree covers broad range of information technologies areas from business operations through to top management decision making. It will prepare you for roles such as:

- Researcher
- Academician
- IT Project Manager
- Systems Consultant
- Data Analyst/Scientist
- IT Application Manager
- Chief Technology Officer
- Computer Systems Specialist
- Artificial Intelligence Specialist
- Cyber Security Consultant /Specialist

RESEARCH CLUSTERS

Our researchers are committed to meeting the technological challenges of the 21st century. They're pushing boundaries in:

INFORMATION SYSTEMS
- Business Informatics
- Digital Government
- Enterprise Architecture
- Healthcare Informatics
- ICT Project Management
- ICT Strategic Planning
- Social Media and Knowledge Management
- Information Engineering
- Service Innovation Technology

COMPUTER SYSTEMS AND SOFTWARE
- Cloud Computing
- Data Center Management
- Embedded Computing
- Enterprise ICT Management
- ICT Network Management
- Image and Signal Processing
- Internet of Things & Edge Computing
- Software Design
- Software Development
- Software Quality and Testing
- Blockchain and Security
- System Requirements Engineering
- Wireless Sensor Network

VISUALISATION AND GAMIFICATION
- Augmented Reality & Gamification
- Data Analytics & Visualization
- Human Information Processing
- Media Informatics and Visual Computing
- Multimedia Design
- User Experience, Interaction Design and Usability

IT SECURITY AND ASSURANCE
- Biometrics
- Blockchain
- Cloud Computing Security
- Computer Ethics and Privacy
- Digital Forensics
- Governance Assessment
- ICT Incident and Forensic Management
- Information Security Audit and Compliance
- Multimedia Security
- Network Security
- Standards, Policy and Risk Management
- Watermarking, Cryptography and Steganography

BIG DATA AND ANALYTICS
- Artificial Intelligence
- Big Data Analysis
- Business Intelligence
- Complex Network Analytics
- Data Governance
- Data Mining
- Database Management
- Machine Learning
- Pattern Recognition
- Social Network Analytics

"My PhD study area was in Health Informatics. I really appreciate my PhD journey in Razak Faculty of Technology and Informatics. The faculty members and staff are very helpful and always available for consultation. Pursuing the PhD. degree in UTM was a wonderful experience."

DR SHAHAB REZAIAN
Lecturer
Islamic Azad University, Iran

"I choose to study Doctor of Philosophy program at Razak Faculty UTM because I want to learn more about machine learning and image processing techniques. This programme has expanded my know-how from previous work domain in teaching at Iraqian universities."

DR SAIF S. AL-JABORIY
Lecturer
Al-Furat Al-awsat Technical University, Iraq

Perdana Centre

INTRODUCTION

We have to understand how our world works before we can change things for the better. As the leading ASEAN academy in science, technology and innovation policy study, we study the issues of socio-political transformations and developments worldwide. Our aim is to always be a leading advocate for social change.

CAREER OPPORTUNITIES

The highly flexible degree covers the strategic policy spectrum from business operations through to top management decision making. It will prepare you for roles such as:

- Consultant
- Academician
- Strategic Planning Manager
- Corporate Planning Manager
- Policy and Planning Manager
- Policy and Research Manager
- Diplomatic Administrative Officer
- Senior Manager in Regulatory Affairs

RESEARCH CLUSTERS

Our researchers are leading the way in understanding science, technology and innovation evolution, and making a difference for people and communities in these areas:

- Agriculture
- Bioeconomy
- Biotechnology Laws
- Commercial Laws
- Communication and Media
- Constitutions and Associations Laws
- Counselling and Clinical Psychology
- Culture, Religion and Gender
- Democratic Politics
- Disaster Management
- Education
- Entrepreneurship and Innovation Policy
- Geopolitics (International)
- High Technology an Industrial Development
- Human Resource Development
- Intellectual Property
- International Relation
- Knowledge Management
- Managing Science, Technology and Innovation
- National Science, Technology and Innovation Policy
- Ocean Thermal Energy Conversion
- Organisational Governance
- Policy and Standards
- Policy for Green Technology
- Policy for Technology and Knowledge Society
- Psychology
- Psycho-social Policy
- Public Administration
- Socio-political Studies
- Space Policy
- Strategic Defence
- Strategic Innovation and Technology Management
- Stress Management
- Sustainability Energy & Renewable Energy
- Technology Transfer and Commercialisation

" My PhD area is in Spiritual Healing and Mental Disorder. I chose this program because I was confident with my supervisor who is the expert in my research area. I truly enjoyed the research experience here as it developed me to become an active lecturer and researcher. "

DR MOHD AFIFUDDIN MOHAMAD
Senior Lecturer
Universiti Sains Malaysia (USM)

" My research interests are in the area of education system, co-curricular activities, and Islamic Civilisation. I believe as long as the expert is available in the faculty, you can pursue PhD in your discipline. I completed my study even having kids. You can too! "

DR WARDATUL AISHAH MUSA
Senior Lecturer
Universiti Kuala Lumpur (UniKL)