



**UTM**  
UNIVERSITI TEKNOLOGI MALAYSIA



**LIST OF CRITICAL AREAS**  
**JOB VACANCIES – UNIVERSITY LECTURE**  
**26th March 2024 – 25th April 2024**



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# **1. AZMAN HASHIM INTERNATIONAL BUSINESS SCHOOL**

**- UTM KUALA LUMPUR**

## **1.1 Azman Hashim International Business School**

- 1.1.1 Aviation Management
- 1.1.2 Digital Innovation
- 1.1.3 Healthcare Management
- 1.1.4 Information Technology
- 1.1.5 Technology Management

## **2. FACULTY OF BUILT ENVIRONMENT AND SURVEYING**

### **- UTM JOHOR BAHRU**

#### **2.1 Department of Architecture**

- 2.1.1 Architecture
- 2.1.2 Building Technology
- 2.1.3 Urban Design

#### **2.2 Department of Landscape Architecture**

- 2.2.1 Landscape Ecology

#### **2.3 Department of Quantity Surveying**

- 2.3.1 Economics, Finance & Management
- 2.3.2 Legal Contractual Studies
- 2.3.3 Professional, Practices
- 2.3.4 Project Management Practices

#### **2.4 Department of Real Estate**

- 2.4.1 Land Law
- 2.4.2 Land Information System
- 2.4.3 Real Estate Investment
- 2.4.4 Valuation (Registered Valuer)

#### **2.5 Department of Urban & Regional Planning**

- 2.5.1 Housing
- 2.5.2 Planning Legislation
- 2.5.3 Urban Design
- 2.5.4 Urban Governance

# **3. FACULTY OF CHEMICAL AND ENERGY ENGINEERING**

## **- UTM JOHOR BAHRU**

### **3.1 Department of Bioprocess Engineering and Polymer Engineering**

3.1.1 Artificial Intelligence (AI) in Bioprocess Industry

### **3.2 Department of Chemical Engineering**

3.2.1 Artificial Intelligence (AI) in Petrochemical Industry

3.2.2 Process Control

3.2.3 Process Safety

3.2.4 Process Simulation

3.2.5 Solid Waste Management

### **3.3 Department of Energy Engineering**

3.3.1 Artificial Intelligence (AI) and Robotics Application in Gas Engineering

3.3.2 Artificial Intelligence (AI) Application in Nuclear Engineering

3.3.3 Nuclear Control and Instrumentation

3.3.4 Oil and Gas Data Analytics

3.3.5 Process Control and Instrumentation

### **3.4 Department of Petroleum Engineering**

3.4.1 Drilling and Completion

3.4.2 Economics and Project Management in Petroleum Engineering

3.4.3 Health, Safety and Environment in Petroleum Engineering

3.4.4 Production and Operation

## **4. FACULTY OF CIVIL ENGINEERING**

### **- UTM JOHOR BAHRU**

#### **4.1 Department of Geotechnics & Transportation**

- 4.1.1 Advanced Laboratory Testing
- 4.1.2 Artificial Intelligence in Geotechnics & Transportation System
- 4.1.3 Constitutive Modelling
- 4.1.4 Environmental Geotechnics

#### **4.2 Department of Structures and Materials**

- 4.2.1 Artificial Intelligence
- 4.2.2 Building Information Modelling
- 4.2.3 Civil Engineering Material
- 4.2.4 Construction Law and Contract
- 4.2.5 Construction Management
- 4.2.6 Earthquake Engineering
- 4.2.7 Numerical Method
- 4.2.8 Project Management
- 4.2.9 Structural Analysis
- 4.2.10 Structural Design

#### **4.3 Department of Water and Environmental Engineering**

- 4.3.1 Coastal Engineering
- 4.3.2 Environmental Management
- 4.3.3 Hydraulics & Water Supply
- 4.3.4 Hydrology & Groundwater
- 4.3.5 Marine Environment
- 4.3.6 Solid Waste

## **5. FACULTY OF COMPUTING**

### **- UTM JOHOR BAHRU**

#### **5.1 Department of Applied Computing & Artificial Intelligence**

- 5.1.1 Data Analytics
- 5.1.2 Data Management
- 5.1.3 Intelligence Computing

#### **5.2 Department of Computer Science**

- 5.2.1 Computer System
- 5.2.2 Digital and Cyber Security
- 5.2.3 Next Generation Networking

#### **5.3 Department of Emergent Computing**

- 5.3.1 Extended Reality and Immersive Technology
- 5.3.2 Cognitive Technologies
- 5.3.3 Computer Graphics and User Experience

#### **5.4 Department of Software Engineering**

- 5.4.1 Software Engineering Foundation
- 5.4.2 Software Process and Methodology
- 5.4.3 Software Technology



## **6. FACULTY OF ELECTRICAL ENGINEERING**

### **- UTM JOHOR BAHRU**

#### **6.1 Department of Biomedical Engineering and Health Science**

- 6.1.1 Artificial Intelligence in Biomedical
- 6.1.2 Biomechanics
- 6.1.3 Biosensor, Bio Transducer, Lab-on-Chip
- 6.1.4 Clinical Engineering
- 6.1.5 Neural Engineering

#### **6.2 Department of Communication Engineering**

- 6.2.1 Acoustic Signal Processing for Communication
- 6.2.2 Communication Networks & Systems
- 6.2.3 Network Security and Blockchain Technology
- 6.2.4 Parallel and Distributed Computing
- 6.2.5 Radar Communication
- 6.2.6 Satellite Communication
- 6.2.7 Signal Integrity in RF/Microwave Engineering

#### **6.3 Department of Control Engineering and Mechatronic Engineering**

- 6.3.1 Autonomous Systems
- 6.3.2 Intelligent Control
- 6.3.3 Mechatronic Engineering
- 6.3.4 Robotics
- 6.3.5 Smart Manufacturing/ Automation

#### **6.4 Department of Electronic Engineering and Computer Engineering**

- 6.4.1 Computer System
- 6.4.2 Electronic System
- 6.4.3 High Speed Interconnect
- 6.4.4 IC and System-on-Chip Design
- 6.4.5 Memory Architecture
- 6.4.6 Signal/Image Processing

## **6.5 Department of Power Electrical Engineering**

**6.5.1** Energy Storage System

**6.5.2** Power Electronics and Electrical Drive

**6.5.3** Power System Engineering

**6.5.4** Smart Grid

# **7. FACULTY OF MANAGEMENT**

## **- UTM JOHOR BAHRU**

### **7.1 Department of Accounting & Finance**

7.1.1 Accounting (Taxation, Information System, Financial Accounting & Reporting, Audit)

7.1.2 Finance (Financial Markets & Behavioural Finance)

### **7.2 Department of Information Systems**

7.2.1 Information Systems (Data/Business Analytics, Digital Business, Data Science, Business Statistics/Computational Mathematics)

7.2.2 Information Systems (IT/ Digital Entrepreneurship, Digital Business Law, Design Thinking & Innovation)

### **7.3 Department of Management & Technology**

7.3.1 Economy

7.3.2 Innovation Technology (Technology Transfer, Technology Forecasting, Technology Commercialization, Managing Technology Based Transfer)

7.3.3 Law

7.3.4 Supply chain, Operation Management

### **7.4 Department of Marketing & Entrepreneurship**

7.4.1 Entrepreneurship

7.4.2 Marketing

## **8. FACULTY OF MECHANICAL ENGINEERING**

### **- UTM JOHOR BAHRU**

#### **8.1 Department of Aeronautics, Automotive & Ocean Engineering**

8.1.1 Aerospace propulsion

8.1.2 Electric vehicle

8.1.3 Offshore engineering

8.1.4 Satellite system

#### **8.2 Department of Applied Mechanics and Design**

8.2.1 Artificial intelligence and robotics system

8.2.2 Continuum, Fracture and Damage Mechanics

8.2.3 Industrial automation and mechatronics control

8.2.4 Risk and Reliability

#### **8.3 Department of Materials, Manufacturing & Industrial Engineering**

8.3.1 Industrial Data Analytics

8.3.2 Deep Learning & Machine Learning

8.3.3 Smart Manufacturing, Programming & Manufacturing Automation

#### **8.4 Department of Thermofluid**

8.4.1 Energy Management

8.4.2 Turbo Machinery

## **9. FACULTY OF SCIENCE**

### **- UTM JOHOR BAHRU**

#### **9.1 Department of Bioscience**

9.1.1 Bioinformatic/Computation Biology

#### **9.2 Department of Chemistry**

9.2.1 Bioinorganic Chemistry

9.2.2 Chemical Metrology

9.2.3 Electroanalytical and Radioanalytical

9.2.4 Forensic Science

9.2.5 Quantum Chemistry

#### **9.3 Department of Mathematical Science**

9.3.1 Applied Mathematics: Waves Dynamics / Solid Mechanics /  
Biomathematics

9.3.2 Numerical & Computational: Adaptive / Hybrid Scientific Computational  
Methods

9.3.3 Operational Research: Optimization / Optimal Control / Infrastructure  
Security

9.3.4 Pure Mathematics: Differential Geometry / Geometry and Quantum Field  
Theory

9.3.5 Statistics: Computational Statistics / Probability Theory / Stochastic  
Processes

#### **9.4 Department of Physics**

9.4.1 Computational Physics

9.4.2 Theoretical Nuclear/ Particle Physics

# **10. FACULTY OF SOCIAL SCIENCES AND HUMANITIES**

**- UTM JOHOR BAHRU / UTM KUALA LUMPUR**

## **10.1 Academy of Islamic Civilization**

- 10.1.1 Islamic civilization
- 10.1.2 Sharia
- 10.1.3 Usuluddin

## **10.2 Language Academy**

- 10.2.1 Applied Linguistics
- 10.2.2 English Language Study
- 10.2.3 English for Specific Purposes (ESP)
- 10.2.4 Linguistics
- 10.2.5 Pragmatics
- 10.2.6 Sociolinguistics
- 10.2.7 Teaching English as a Second Language (TESL)
- 10.2.8 Translation study

## **10.3 School of Education**

- 10.3.1 Chemical Education
- 10.3.2 Curriculum and Teaching
- 10.3.3 Education Administration and Management
- 10.3.4 Education and Development
- 10.3.5 Guidance and counselling
- 10.3.6 Measurement and Evaluation in Education
- 10.3.7 Teaching English as a Second Language (TESL)

## **10.4 School of Human Resource Development & Psychology**

- 10.4.1 General Psychology
- 10.4.2 Human Resource Development
- 10.4.3 Human Resource Management
- 10.4.4 Industrial and organizational psychology

# **11. MALAYSIA JAPAN INTERNATIONAL INSTITUTE OF TECHNOLOGY**

**- UTM KUALA LUMPUR**

## **11.1 Department of Chemical and Environmental Engineering (ChEE)**

11.1.1 Modeling, Process Optimization and Simulation

## **11.2 Department of Electronic Systems Engineering (ESE)**

11.2.1 Cyber Security

11.2.2 IC testing and verification

11.2.3 Software Engineering

11.2.4 Very large scale Integration

## **11.3 Department of Management of Technology (MoT)**

11.3.1 Data Science & Business Analytics

11.3.2 Economics

11.3.3 Human Resource Management

11.3.4 Intellectual Property Management

11.3.5 Pure Mathematics

## **12. FACULTY OF ARTIFICIAL INTELLIGENCE**

**(Formerly known as RAZAK FACULTY OF TECHNOLOGY AND INFORMATICS)**

**- UTM KUALA LUMPUR**

### **12.1 Department of Business Intelligence, Humanities and Governance (BIHG)**

- 12.1.1 AI in Business
- 12.1.2 AI in Financial
- 12.1.3 AI in Governance and Policy
- 12.1.4 AI in Talent Development
- 12.1.5 Consumer Behaviour Analysis
- 12.1.6 Future Technopreneurship and Innovation
- 12.1.7 Market Prediction
- 12.1.8 Precision Marketing
- 12.1.9 Responsible AI & Ethics
- 12.1.10 Social Media Insight
- 12.1.11 Trust, Risk and Security in AI Models (TRSIM)

### **12.2 Department of Creative AI (CAI)**

- 12.2.1 Augmented reality (AR) / Virtual reality (VR) / Mixed Reality (MR)
- 12.2.2 Creative Industries (e.g. Creation, Information Analysis, Content, Enhancement and Post, Production, Information Extraction and Compression)
- 12.2.3 Graphic Design
- 12.2.4 Industrial Design
- 12.2.5 Metavers

### **12.3 Department of Intelligence Informatics (II)**

- 12.3.1 AI Advanced
- 12.3.2 AI Optimization, AI Engineering, AI Fundamentals
- 12.3.3 AI Programming Technique
- 12.3.4 Artificial Generative Intelligence
- 12.3.5 Artificial Narrow Intelligence
- 12.3.6 Artificial Super Intelligence
- 12.3.7 Cognitive Science



- 12.3.8 Computational Intelligence
- 12.3.9 Computer Vision
- 12.3.10 Cyber Security
- 12.3.11 Data Analytics and Visualization
- 12.3.12 Data Management
- 12.3.13 Expert System
- 12.3.14 Explainable AI
- 12.3.15 Generative AI
- 12.3.16 Knowledge Representation & Reasoning, Uncertainty Reasoning
- 12.3.17 Machine Learning, Reinforcement Learning, Deep Learning, Natural Language Processing (NLP)
- 12.3.18 Mathematics for AI
- 12.3.19 Quantum Computing

#### **12.4 Department of Smart Engineering and Advanced Technology (SEAT)**

- 12.4.1 AI and Optimisation Methods
- 12.4.2 AI and Robotics
- 12.4.3 AI in Manufacturing
- 12.4.4 Automation Technology
- 12.4.5 Computational Fabrication and Manufacturing
- 12.4.6 Intelligent Communication System
- 12.4.7 Intelligent Environmental Protection
- 12.4.8 Intelligent Forensic and Risk Engineering
- 12.4.9 Intelligent Power System
- 12.4.10 Intelligent Sensors
- 12.4.11 Intelligent System Engineering
- 12.4.12 Occupational Safety and Health (OSH)
- 12.4.13 Optical and Quantum Systems
- 12.4.14 Renewable Energy and AI
- 12.4.15 Smart Energy Innovation
- 12.4.16 Smart Intelligent Materials for Engineering
- 12.4.17 Smart Medical Technology and Analytics
- 12.4.18 Smart/ Intelligent Materials for Buildings
- 12.4.19 Sustainable Smart Construction