UTP
UNIVERSITI TEKNOLOGI PETRONAS

# MSc in DATA SCIENCE

JPT/BPP(N-DL/0613/7/0015)10/28

## Take advantage of global challenges and opportunities presented by sustainability that will transform 21st century's industrial practices!

Data is the new oil! Industries demand for graduates with technical capability to fill in the workforce gaps in various areas in data science, big data analytics and advanced algorithms domain. The impact of IR4.0 expansion requires rapid needs of Data Scientists to analyse, prepare and visualise data as well as evaluating and improving model solutions. The MSc in Data Science programme prepares students to become Data Scientists with skillsets and knowledge in data engineering, data management, data analytics, project management, machine learning, and optimisation.

As stated in the Malaysia's Transformasi Nasional 2050 (TN50) initiative, four main trends that are related to technology and connectivity are; (i) exponential explosion in internet bandwidth, processing power and digital storage capacity, (ii) rise of broadband and mobile connectivity, Internet of Things (IoT), robotics and Artificial Intelligence (AI), (iii) Labs and companies produce machines or software with increasing human-like capabilities, and (iv) emergence of developments like 'smart cities' where sensors, information and technology are integrated to meet the needs of the population. These technology trends become the driving factor of the current market. It is the objective of the MSc in Data Science programme to fulfil the competency gaps among the potential graduates so that they acquire the required skillsets especially in preparing them with data analytics capability for IR4.0.

The embedded Microsoft syllabus in one of the courses is an added advantage for the students to be able to qualify to sit for professional certification exam and be a certified Data Analyst.

Students also will get exposure from the various industry experts as their guest speaker.

**Building a talent pipeline of data science specialists! Benefit from learning objectives tied to reality-based industry scenarios and changes**

### Join a leading feeder university for the data science industry

**Get in touch with the latest best practices**

**Grow your industry perspective with subjects grounded in day-to-day industry challenges, opportunities and outcomes.**

**Learn how to leverage real industry data and research evidence to provide solutions through cutting edge technology tools and management techniques.**

# Advanced Data Science for Professionals

This programme is designed for professionals that wish to equip themselves with the advanced knowledge to manage data and information, problem solving skills and hands on practice to solve data science issues and problems. The programme will also embed the professional with social skills and responsibilities, communications skills and leadership, ethics and positive values.

# 5 reasons to join MSc in Data Science at UTP!

1. Modular - based programme jointly developed with industry experts
   Reap the benefits of an industry-backed programme that supports the global mission of the industry.

2. Leverage on our vast industry network!
   Grow your ICT expertise and apply classroom and research knowledge to real industry projects through our university-industry collaborations.

3. Get a sneak peek at the future with maximum industry exposure
   Boost your industry readiness and become a data scientist who straddles a broad range of technology areas encompassing big data analytics and data engineering.

4. Benefit from our innovative curriculum and programme specialisations
   Gear up your competitive edge in ICT to support the everchanging industry needs with our UTP-exclusive Advanced Data Analytics and Data Engineering specialisations.

5. Industry Certification
   Integration of Microsoft Syllabus in the programme that leads to a Microsoft Certified Examination.

APPLY NOW

# The industry is our classroom

| | |
|---|---|
| 1 | Our programme has been crafted in close partnership with industry experts from various sectors, ensuring its wide-ranging applicability. |
| 2 | The curriculum benefits from the insights of industry professionals, senior academics with real industry experience, and adjunct lecturers, offering a holistic learning experience. |
| 3 | Explore a dynamic learning experience through our project-based assignments, immersing yourself in real-world industry scenarios and harnessing valuable analytical data resources. |

## Get your hands in the industry with our vast network

Benefit from our close collaborations with the industry. Immerse yourself in the future and identify answers to the industry's most complex challenges.

# Course structure

Candidates are required to complete total of 40 credit hours. The programme's curriculum structure is as follows:

| Category | Module | Credit Hour |
|---|---|---|
| Core | Data Science Concept | 3 |
| | Data Management | 3 |
| | Data Analytical Programming | 3 |
| | Data Mining and Machine Learning | 3 |
| | Statistical Method for Data Analysis | 3 |
| Core Specialisation (Choose 1 Specialisation) | **Advanced Data Analytics** | |
| | Digital Analytics | 3 |
| | Real-time Analytics | 3 |
| | **Data Engineering** | |
| | Numerical Optimisation | 3 |
| | Deep Learning | 3 |
| University Requirement | Big Data Analytics | 3 |
| | IT Project Management | 3 |
| National Requirement | Research Method in IT | 3 |
| Project | MSc Project 1 | 3 |
| | MSc Project 2 | 7 |
| TOTAL | | 40 |

As per requirement by Malaysian Qualification Agency (MQA), candidates coming from non-discipline into MSc in Data Science programme (such as engineering and business) have to take TWO pre-requisite courses before enrolling for the MSc programme. The two pre-requisite courses are (1) Software Engineering and (2) Object Oriented Programming

# Mode of study

**ODL**

**Minimum** **12 months**
**Maximum** **36 months**

**Flexible arrangement for Full Time Open and Distance (ODL) Learning mode:**

- 100% online with self-instructional materials (SIMS)
- 8 hours minimum of online live class session for each course per semester
- Classes after working hours/over the weekend
- Online open book final exam

# Medium of Instruction

English

# Intake

January/May/September

# Entry requirements

## Academic

| | |
|---|---|
| 1 | Bachelor's Degree in relevant field from a recognised university with a minimum CGPA of 2.75 or its equivalent OR; |
| 2 | Bachelor's Degree in a relevant field from a recognised university with a minimum CGPA of 2.50 - 2.74 or its equivalent will require an internal rigorous assessment OR; |
| 3 | Bachelor's Degree in a relevant field from a recognised university with a minimum CGPA of 2.00 - 2.49 or its equivalent will require 5 years of working experience and internal rigorous assessment. |
| 4 | Bachelor's Degree from different discipline, must undergo pre-requisite courses in Computing. |
| 5 | No Bachelor's Degree? Apply with your working experience. Candidates who satisfy APEL A requirements are eligible to enrol. Scan the QR code to learn more. |

APEL A

## English language proficiency

International students are required to be proficient in written and spoken English with a minimum TOEFL score of 500 OR a minimum IELTS score of 6.0 or its equivalent.

Native English speakers or holding a degree with English as the medium of instruction may be exempted from this requirement.

# Graduation requirements

In order to graduate with MSc in Data Science degree, candidate is required to:

| | |
|---|---|
| 1 | Obtain a minimum cumulative grade point average (CGPA) of 3.00 |
| 2 | Pass both coursework and final exam for all courses |
| 3 | Satisfy all the requirements approved by UTP Senate |
| 4 | Fullfill the required credit hours and pass Research Methodology course |

# Tuition fees

| | Local | International |
|---|---|---|
| **Application Fee** | RM50 | RM200 / USD50 |
| **Registration as a student** | | |
| **Bond** | None | RM3,000 |
| **Registration Fee** | RM500 | RM1,400 |
| **Commitment Fee** | RM500 | RM800 |
| **Total** | RM1,000 | RM5,200 |
| **Commitment throughout studies** | | |
| **Semester Fee** | RM400 | RM400 |
| **Tuition Fee** | 22,350 | 29,450 |

# Rankings & ratings

2022 SETARA COMPETITIVE

(6 STAR) MyRA® MALAYSIA RESEARCH ASSESSMENT

THE World University Rankings 2025 WORLD TOP 250

RANKED 53 QS WORLD UNIVERSITY RANKINGS ASIA IN THE TOP 100 2025

## For programme enquiry:


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## For admission enquiry:

www.utp.edu.my

Admission Line :
Local candidates : +605 368 8064
International candidates : +605 368 8364
Universiti Teknologi PETRONAS, 32610 Seri Iskandar, Perak Darul Ridzuan, Malaysia

For further details on the application, visit www.utp.edu.my

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** As of January 2025*