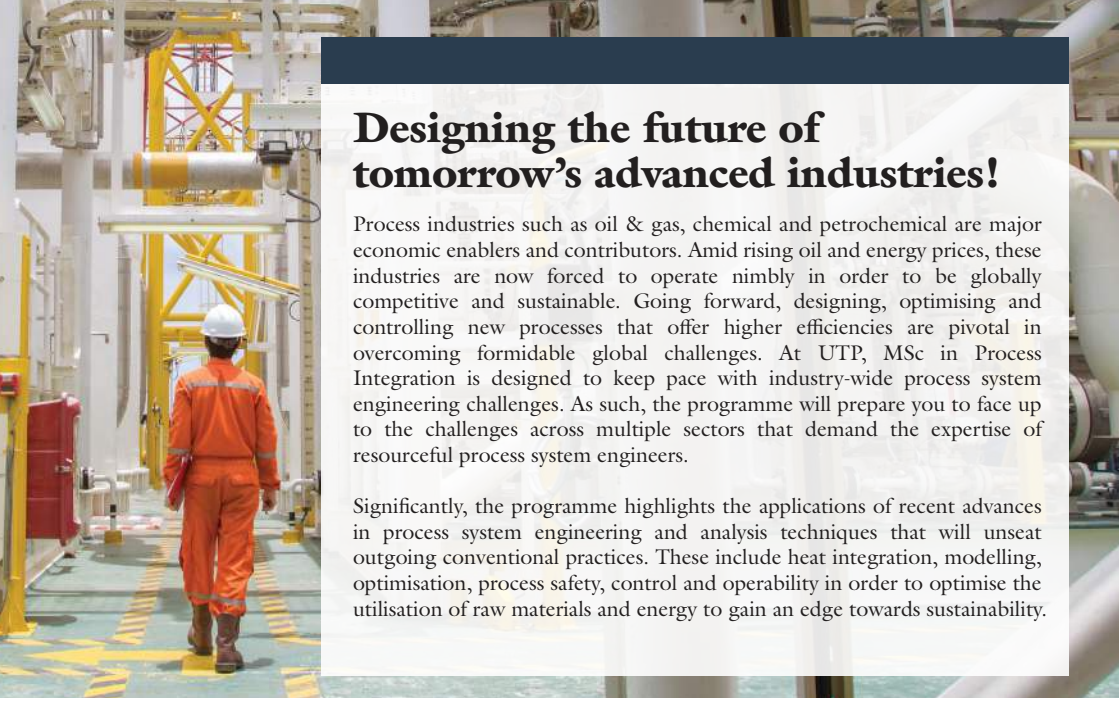
UTP
UNIVERSITI TEKNOLOGI PETRONAS

MSc in Process Integration

JPT/BPP(R3/0724/7/0003)05/30
JPT/BPP(N-DL/0711/7/0002)10/27



Designing the future of tomorrow's advanced industries!

Process industries such as oil & gas, chemical and petrochemical are major economic enablers and contributors. Amid rising oil and energy prices, these industries are now forced to operate nimbly in order to be globally competitive and sustainable. Going forward, designing, optimising and controlling new processes that offer higher efficiencies are pivotal in overcoming formidable global challenges. At UTP, MSc in Process Integration is designed to keep pace with industry-wide process system engineering challenges. As such, the programme will prepare you to face up to the challenges across multiple sectors that demand the expertise of resourceful process system engineers.

Significantly, the programme highlights the applications of recent advances in process system engineering and analysis techniques that will unseat outgoing conventional practices. These include heat integration, modelling, optimisation, process safety, control and operability in order to optimise the utilisation of raw materials and energy to gain an edge towards sustainability.

Programme highlights

Designed in collaboration with the industry, UTP's MSc in Process Integration helps students break through conventional thinking to plan and deliver an exciting future.

Building a talent pipeline of process integration specialists! Benefit from learning objectives tied to the contours of reality-based industry situations and changes!

Join a leading feeder university for the process integration industry

Get in touch with the latest industry thinking.

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 tools and techniques.

"The industry-focused knowledge, views and insights gained during my study now serve as a practical guide in my decision making—allowing me to formulate higher efficiency execution plans that have contributed to my plant's overall operational improvement. Also, the framework helps me to optimise existing processes by analysing operations and planning from a strategic perspective. Great support and vast industrial experience of the lecturers contributed to deeper understanding of the practical relevance of the courses in my day-to-day work challenges."

- JJ Lau -
Plant Engineer

Be the Engineer of the Future: Lead the Way in Advanced Process Design and Sustainability!

Step into a world of limitless opportunities with our MSc in Process Integration. Designed for aspiring leaders, this program equips you with cutting-edge skills to revolutionize industries. From optimizing chemical processes to driving sustainability and implementing Industry 4.0 solutions, you'll gain expertise to shape the future of energy, chemical, petrochemicals, oil and gas, renewable energy, and advanced manufacturing. Join the forefront of innovation and lead the transition towards a greener, smarter world.

4 reasons to join MSc in Process Integration at UTP!

1

Programme jointly developed with PETRONAS' experienced engineers

Reap the benefits of an industry-backed programme that supports the global mission of the industry!

2

Leverage our vast industry network via possible industrial attachment programme!

Grow your technical expertise through process system engineering specific projects with any one of our reputable industry partners.

3

Industry support for students from non-industrial backgrounds!

Choose between the two options below

- Carry out an individual design project across a 4-month industrial attachment with a host company, OR
- Carry out a design project using real industry-derived data.

4

Sign up for our Open Distance Learning (ODL) programme

Offered with the flexibility of classes on campus, online or a blend of both, working professionals can opt for the best mode of learning to accommodate their busy schedules.

APPLY NOW

The industry is our classroom

1	**Programme subjects delivered by senior industry experts and adjunct lecturers.**
2	**Industrial-based examples incorporated into the courses.**
3	**Design projects using real industry-derived data.**

Get your hands in the industry with our vast network

Benefit from our collaborations with a wide-range of industry partners that are mapped across our curriculum development and adjunct lecture series.

Course structure

Candidates are required to complete total of 41 credit hours. The programme's curriculum structure is as follows:

Category	Module	Credit Hour
Core	Heat Integration	3
	Modelling	3
	Optimisation	3
	Operability & Control	3
Technical Electives (Choose 4)	Process Safety	3
	Environmental Design for Atmospheric Emission	3
	Advanced Distillation Design	3
	Cogeneration & Site Utility	3
	Environmental Design for Aqueous Emissions	3
	Refinery and Petrochemical Processes	3
	Synthesis of Reaction and Separation Systems	3
University Requirement	Data Analytics	3
	Project Management	2
National Requirements	Research Methodology	2
Project	Project 1	3
	Project 2	7
TOTAL		41

As per requirement by Malaysian Qualification Agency (MQA), candidates coming from non-discipline into MSc in Process Integration programme (such as sciences) have to take TWO pre-requisite courses before enrolling for the MSc programme. The two pre-requisite courses are (1) Principles of Chemical Engineering and (2) Process Safety and Loss Prevention

Mode of study

Conventional

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 2.50 or its equivalent OR;
2	A bachelor's degree or equivalent not meeting CGPA of 2.50, can be accepted subject to a minimum of 5 years of working experience in a relevant field.
3	Bachelor's Degree from different discipline, must undergo pre-requisite courses in Engineering or Engineering Technology.
4	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 5.0 or its equivalent.

Exemptions may be provided for candidates who are native English speakers or degree holders with English as the medium of instruction.

Graduation requirements

In order to graduate with MSc in Process Integration degree, candidate is required to:

1	Obtain a minimum cumulative grade point average (CGPA) of 3.00
2	Satisfy all the requirements approved by UTP Senate
3	Fulfill the required credit hours and pass Research Methodology course

Tuition fees

Application Fee	Local	International
	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	Conventional	ODL	Conventional	ODL
	28,350	22,500	37,400	29,600

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

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For admission enquiry:

www.utp.edu.my

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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

UTPOfficial

** As of January 2025*