Entry Requirement

1. A Bachelor's degree with minimum Cumulative Grade Point Average (CGPA) of 2.75 or equivalent, as accepted by the University Senate or
2. A Bachelor's degree or equivalent in related fields with 2.50≤CGPA<2.75 can be accepted subject to comprehensive internal assessment of one year of working experience in the relevant fields.
3. A Bachelor's degree or equivalent in related fields with 2.00≤CGPA<2.50 can be accepted subject to comprehensive internal assessment as follows:

CGPA	Other requirements
2.00≤CGPA<2.50	1. Working experience in related field – five years, or 2. Working experience in related field – one year, and (i) Portfolio endorsed by faculty expert, or (ii) Obtain a minimum of Grade B+ for three major/elective courses

Entry requirement for English language

All international students must at least meet one the following requirements:

1. Students must have IELTS Band 5.0, TOEFL (IBT 60). The certification should not be more than 2 years from the date test taken and registration of candidature, depending on the specific requirement for programme.
2. Students with IELTS below Band 5.0, TOEFL (IBT 60) and below must obtain at least Grade B in Enhancement Module of the Pre-sessional English Course (PEC) at the Centre for Modern Language (PBM). Students are offered candidature after completion of the course.

International students are required to have a minimum score of any one of the following:

1. MUET Band 3.0, OR
2. IELTS Band 5.0, OR
3. TOEFL score 500/TOEFL IBT 42, OR
4. Any test aligned to CEFR B1

Students who do not have the minimum requirement as stated above are required to attend Preparatory Intensive English conducted by the Centre for Modern Language and they should achieve score of MUET Band 3.

Programme requirement

1. Recognised degree: Bachelor's degree in Sciences/Engineering from Public Institution of Higher Learning (IPTA) or Private Institution of Higher Learning (IPTS) recognised by the UMP Senate.
2. Applicant without a Bachelor's degree in Sciences/Engineering must complete Bridging Courses (MSK1110 Basic Chemistry and MSK1103 Computer Programming) in Semester 1.

APEL application at UMP

APEL A Certificate (APEL T-7): Malaysian citizen ofat least 30 yearsof age and possessat least STPM / A-level / Diploma / Equivalent qualification with relevant work experience.

Contact Us

Email Faculty	: unitpps_fist@ump.edu.my
Phone No Faculty	: 09 431 5013
Email IPS	: ips.admission@ump.edu.my
Phone No IPS	: 09 431 5024

UMP
اونيۏرسيتي مليسيا ڤهڠ
UNIVERSITI MALAYSIA PAHANG

MASTER OF SCIENCE IN CHEMICAL ANALYTICS (MIXED MODE)

MQA/PA15319

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About UMP

Established as a technical university in 2002, Universiti Malaysia Pahang (UMP) offers a variety of engineering-and technology-based technical programmes, including high-level Technical and Vocational Education and Training (TVET).

Ranked as one of the best in Research and Innovation within the classifications of Malaysia Technical University Network (MTUN) and Non-Research University (Non-RU), UMP is steadfastly committed to innovating and developing unique academic programmes through strategic international collaborations. In the field of research, UMP collaborates with local industries to focus on industry-related applications. Such research collaboration enriches the teaching and learning modules at the university, while simultaneously promotes commercialization of research output and products. UMP campus in Gambang is the home for four faculties, one institute and two centres namely Faculty of Civil Engineering Technology, Faculty of Chemical and Process Engineering Technology, Faculty of Science and Industrial Technology, Faculty of Industrial Management, Institute of Postgraduates Studies, Centre for Mathematical Sciences and Centre for Human Sciences.

Master of Science in Chemical Analytics Postgraduate Programme (By Mixed-mode)

Master of Science in Chemical Analytics is designed to provide an extended knowledge of industrial chemistry field in the utilization of mathematical software to solve an industrial problem. The programme caters two pillars of Industrial Revolution 4.0 including simulation and big data computing related to the industrial chemistry field such as chemometrics; quality control in the industrial processing; advanced spectroscopic and chromatography methods; molecular simulation and drug designs; and environmental data analysis. Students in the programme able to learn on how to solve complex problems in a wide range of fields, including environmental science, materials science, pharmaceuticals, forensics, and more. The curriculum includes theoretical principles and hands-on laboratory experience and research opportunities. This programme is a mixed-mode programme which consist of 50% of coursework and 50% of research. The objective of this programme is to produce graduates who are knowledgeable and able to apply chemical analytics knowledge in industry, engineering, and technology through critical thinking. The program also requires every student to complete a project dissertation based on a chosen applied and industrial problems. Graduates of the program are prepared for careers in research and development, quality control, analytical testing, and other fields that require expertise in chemical analytics. They may also choose to pursue further education in a doctoral program in chemistry or a related field. Applicants who possess a first degree in any of the following specializations: applied and pure chemistry; industrial sciences; and engineering as well as good mastery in undergraduate industrial chemistry courses are welcomed to apply.

Program Structure

Credit Hours
42
hours

This programme consists of 42 credit hours which core courses cover about 35%, elective courses about 15% and dissertation about 50%.

Course Fee

Estimated total fees

Local Student	MYR 18,985
International Student	MYR 32,585

*MYR-Ringgit Malaysia
*Hostel/ Accommodation fees are not included

Career Path

Chemical analytics professional practitioners are in demand because of the increasing focus on the recent trend in Industrial Revolution 4.0 in accordance with the law and regulatory requirements.

- Senior chemist
- Processing engineer
- Technopreneur
- Academician
- Forensic scientist
- Data analytics engineer
- Water technology analyst
- Bioinformatics analyst

Course Structure

Code	Full Time Semester 1 Course	Credits	Component
MSF1113	Research Methodology	3	Compulsory
MSK1113	Chemometrics	3	Core
MSK1123	Data Mining for Chemical Processes	3	Core
MSK1213	Chemical Quality Control	3	Core
MSK1223	Cheminformatics and Molecular Modelling	3	Core
MSK1110	Basic Chemistry	0	HW
MSK1103	Computer Programming	0	HW
	Total	**15**	

Code	Semester 2 Course	Credits	Component
MSK11*3	Elective course	3	*Elective
MSK11*3	Elective course	3	*Elective
MSK1212	Dissertation I	12	Dissertation
	Total	**18**	

Code	Semester 3 Course	Credits	Component
MSK2309	Dissertation II	9	Dissertation
	Total Credit for Graduation	**42**	

Code	Elective Course Course	Credits	Component
MSK1133	Spectroscopic & Chromatographic Analysis	3	*Elective
MSK1143	Environmental Analysis	3	*Elective
MSK1153	Chemical Data Science in Internet of Thing (IoT)	3	*Elective
MSK1163	Quality Management System	3	*Elective
MSK1173	Legal and Safety Aspect in Chemical Industry	3	*Elective
MSM4274	Multivariate Data Analysis	4	*Elective
MSM4244	Data Mining	4	*Elective

Duration

Mode of study	Minimum period	Maximum period
Full Time	1 year (2 regular semesters and 1 short semester)	3 years (6 regular semesters)
Part Time	2 years (4 regular semesters)	6 years (12 regular semeters)

Location

Faculty of Industrial Sciences and Technology,
Universiti Malaysia Pahang,
Lebuh Persiaran Tun Khalil Yaakob,
26300, Kuantan Pahang, Malaysia.