



B.App.Sc.(Hons.)
(Industrial Chemistry)
School of Chemical Sciences

2022/2023

MAIN ADMINISTRATIVE STAFF

DEAN



Prof. Dr. Rohana Adnan

DEPUTY DEANS



Assoc. Prof. Dr. Mohd Rizal Razali
(Academic, Career & International)



Assoc. Prof. Dr. Ng Eng Poh
(Research, Innovation & Industry-Community Engagement)

PROGRAMME MANAGERS



Dr. Ng Si Ling
(Physical Chemistry)



Assoc. Prof. Dr. Oo Chuan Wei
(Organic & Inorganic Chemistry)



Dr. Mardiana Saaid
(Analytical Chemistry)



Assoc. Prof. Dr. Noor Hana Hanif Abu Bakar
(Industrial Chemistry)

ADMINISTRATIVE OFFICERS



Mr. Muhamad Tarmizi Rahim
Deputy Registrar
(HR & Postgraduates)



Mr. Mohd Zuaril Akimi Mohd Shaari
Senior Assistant Registrar
(Academic)

B. App. Sc. (Hons.) (Industrial Chemistry)

PROGRAMME STRUCTURE

(i) Structure of Study Programme

Course Component	Unit Requirement B.App.Sc. (Hons.)
Core (T)	73
Elective (E)	30
University (U)	17
Total	120

For Bachelor of Applied Science (Hons.) (Industrial Chemistry), only **one (1)** package is available. **Package 1** is designed to allow the students to register for Industrial Training in the final semester (Semester 8).

(ii) Industrial Training

Industrial Training (KIE461/9) is **compulsory** for all Bachelor of Applied Science (Hons.) (Industrial Chemistry) students. This course can be taken after accumulating at least 95 units.

(iii) Chemistry Project

Students are encouraged to register for Chemistry Project (KUE319/6) during their third year of studies. This involves conducting research work for 2 semesters and submitting a Chemistry Project report.

(iv) Assessments

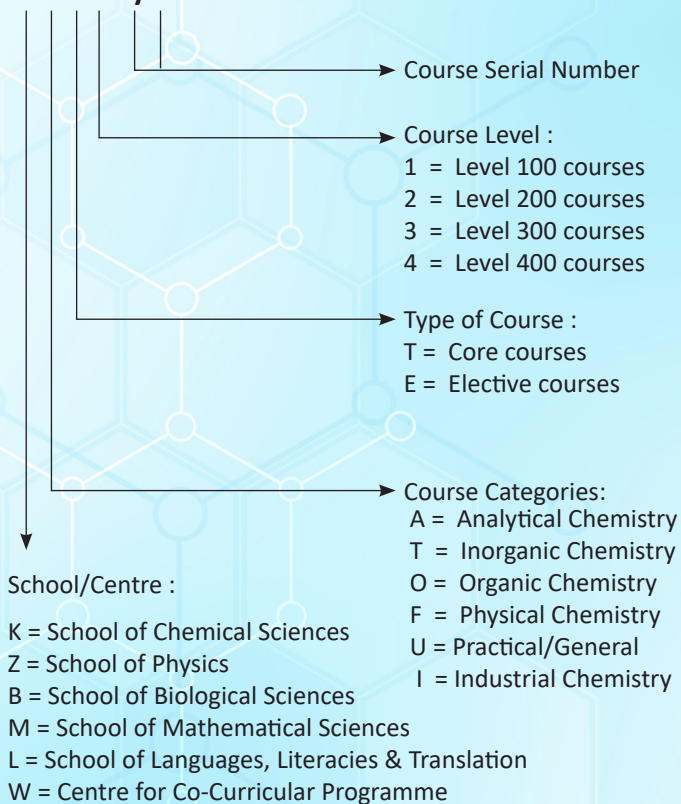
The cognitive, psychomotor and/or affective skills will be assessed in coursework (assignments, quizzes, test, presentations, laboratory reports and practical tests) and examination.

SCHOOL OF CHEMICAL SCIENCES

Course Code

Each course has a course code which is made up of 3 alphabets and 3 numbers.

A B C x y z



B.App.Sc. (Hons.) (Industrial Chemistry)

LIST OF COURSES OFFERED

B.App.Sc. (Hons.) – Applied Science (Industrial Chemistry)		
(i) Core Courses (T) - 73 Units	Pre-requisites	
MAA101/4	Calculus for Science Students 1	
MAA102/4	Calculus for Science Students 2	
ZCA101/4	Physics I (Mechanics)	
KUT100/2	Safety and Security for Chemical Sustainability	
KUT101/2	General Chemistry Practical I	
KUT102/2	General Chemistry Practical II	
KTT112/4	Inorganic Chemistry I	
KOT122/4	Organic Chemistry I	
KFT133/4	Physical Chemistry I	KTT112 (s) or KOT122 (s)
KAT145/4	Analytical Chemistry I	KTT112 (s) or KOT122 (s)
KTT212/3	Inorganic Chemistry II	KTT112 (s)
KOT222/3	Organic Chemistry II	KOT122 (s)
KIT257/3	Materials Chemistry	
KIT258/4	Unit Operations	
KUT215/2	Analytical Chemistry Practical I	KUT101 (s), KAT249 (c)
KFT231/3	Physical Chemistry II	KFT133 (s)
KAT249/3	Analytical Chemistry II	KAT145 (s)
KUT306/2	Research Methodology in Chemistry	
KIT355/2	Unit Operations Practical	KIT258 (s)
KIT359/2	Material Chemistry and Chemical Processing Practical	KIT257 (s)
KIT358/3	Polymer Chemistry	KOT122 (s)
KIT458/3	Chemical Processing	KTT112 (s), KOT122 (s)
KUE319/6 or 6 units	Chemistry Project or Other theory courses from Analytical, Industrial or Pure Chemistry	

(ii) Elective Courses (E) – 30 units

(a) Selection of 20 units or more		Pre-requisites
KIE461/9	Industrial Training - (<i>Compulsory</i>)	
MAA161/4	Statistics – (<i>Compulsory</i>)	
KUT203/2	Inorganic Chemistry Practical	KUT101 (s)
KUT206/2	Organic Chemistry Practical	KUT102 (s), KOT122 (s)
KUT214/2	Physical Chemistry Practical	KUT102 (s), KFT231 (c)
KUT317/2	Inorganic and Analytical Chemistry Practical	KUT203 (s), KUT215 (s)
KAE445/3	Bioanalysis	KAT344 (s) or KAT 249 (s)
KIE456/3	Food and Palm Oil Chemistry	
KIE359/3	Green Chemistry and Technology	
KAT345/4	Spectroscopic Methods	KAT145 (s)
KTE411/3	Selected Topics in Inorganic Chemistry	KTT212 (s)
KOE423/3	Selected Topics in Organic Chemistry	KOT222 (s)
KFE441/3	Applied Surface Chemistry	KFT231 (s)

An additional **10 units or less** to fulfil the elective component must be taken from any other schools not limited to School of Physics, Mathematical Sciences, Biological Sciences, Industrial Technology, or Centre for Global Archaeological Research.

*All the courses offered are subjected to changes when the need arises.

(s) = sequential (Course must be taken earlier)

(c) = concurrent (Course must be taken concurrently)

B.App.Sc. (Hons.) – APPLIED SCIENCE (INDUSTRIAL CHEMISTRY)

YEAR 1					
COMPONENT	SEMESTER 1		SEMESTER 2		UNITS
	CODE	UNITS	CODE	UNITS	
University Courses (U)	WUS101	2	LSP300	2	
	U	2			
Core Courses (T)	KTT112	4	KOT122	4	
	KUT102	2	KUT101	2	
	MAA101	4	MAA102	4	
	ZCA101	4	KUT100	2	
Elective (E)			Elective	2	
TOTAL UNITS		18		16	34

YEAR 2					
COMPONENT	SEMESTER 3		SEMESTER 4		UNITS
	CODE	UNITS	CODE	UNITS	
University Courses (U)	*HFF225	2	*HFE224	2	
Core Courses (T)	KOT222	3	KTT212	3	
	KAT145	4	KFT133	4	
	KIT257	3	KIT258	4	
Elective (E)	Elective	4	Elective	2	
TOTAL UNITS		16		15	31

Note: *HFF225/2 (Philosophy and Current Issues) and HFE224/2 (Appreciation of Ethics and Civilisations)

YEAR 3					
COMPONENT	SEMESTER 5		SEMESTER 6		UNITS
	CODE	UNITS	CODE	UNITS	
University Courses (U)	LKM400	2	LSP402	2	
	U	1			
Core Courses (T)	KFT231	3	KIT358	3	
	KIT359	2	KIT355	2	
	KUT306	2	KUE319	3	
			KUT215	2	
			KAT249	3	
Elective (E)	Elective	4	Elective	3	
TOTAL UNITS		14	18	32	

YEAR 4					
COMPONENT	SEMESTER 7		SEMESTER 8		UNITS
	CODE	UNITS	CODE	UNITS	
University Courses (U)	U	2	KIE461 : Industrial Training for 1 Semester (18 weeks) in Industry/ Government Agency/ Private Company	9	
Core Courses (T)	KUE319	3			
	KIT458	3			
Elective (E)	Elective	3			
	Elective	3			
TOTAL UNITS		14	9	23	
GRAND TOTAL UNITS					120

LANGUAGE REQUIREMENT:

ENGLISH LANGUAGE :

- All Bachelor's degree students must take four (4) units from the English Language courses and pass with a minimum Grade 'C' to fulfil the University requirement for graduation.
 - LSP300/2 : Academic English
 - LSP402/2 : Scientific and Medical English
- Students with MUET Bands 2 & 3 / IELTS 5.0 & 5.5 need to take LMT100/2 (Code Z) : Preparatory English.
 - Pass with minimum Grade 'C' in order to register for LSP300.
 - LMT100 is a pre-requisite course. The unit is not counted for graduation.

MALAY LANGUAGE :

- All Bachelor's degree students must take LKM400/2 – Malay Language IV and pass with minimum Grade 'C' to fulfil the University requirement for graduation.
- LKM400/2 is compulsory for local students.

Programme Educational Objectives (PEO):

In line with the mission of the School of Chemical Sciences, Bachelor of Applied Science (Honours) (Industrial Chemistry) offers high quality science education with the following aims:

PEO 1 : Industrial chemists who apply technical knowledge and skills in line with current industry needs and developments.

PEO 2 : Industrial chemists who are ethical in their behaviour and are responsible in improving the socio-economic well-being of society

PEO 3 : Industrial chemists who can act as leaders or team members in providing scientific solutions to problems faced by society and industry through effective communication.

PEO 4 : Industrial chemists who are constantly improving and adapting to current technology and demonstrating effective information resource management

Program Learning Outcomes: Upon completion of this programme, students will be able to:

PLO 1	Knowledge (of the discipline)	Apply fundamental knowledge of chemistry to chemistry-related practices.
PLO 2	Practical Skills (of the discipline)	Perform safe handling of chemicals and proficient manipulation of laboratory apparatus and analytical instruments.
PLO 3	Cognitive Skills	Demonstrate critical thinking and provide practical solutions to chemistry-related issues by employing appropriate and relevant chemistry knowledge and skills.
PLO 4	Communication Skills	Demonstrate effective communication.
PLO 5	Interpersonal Skills	Lead and collaborate with diverse team members and demonstrate social responsibility for the well-being of society.
PLO 6	Ethics and Professionalism	Balance and uphold positive values, ethics and accountability in societal and professional engagement.
PLO 7	Personal Skills	Manage information and seek new knowledge and skills independently.
PLO 8	Entrepreneurial Skills	Display relevant and appropriate managerial and entrepreneurial skills.
PLO 9	Leadership, Autonomy and Responsibility	Demonstrate the ability to work effectively as a leader.
PLO 10	Digital Skills	Demonstrate the ability to use digital effectively.
PLO 11	Numeracy Skills	Demonstrate the ability to use numerical effectively



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