

B.App.Sc.(Hons.)

(Industrial Chemistry)
School of Chemical Sciences

MAIN ADMINISTRATIVE STAFF

DEAN



Prof. Dr. Rohana Adnan

DEPUTY DEANS



Assoc. Prof. Dr. Melati Khairuddean
(Academic, Career & International)



Assoc. Prof. Dr. Oo Chuan Wei
(Research, Innovation & Industry-Community Engagement)

PROGRAMME MANAGERS



Assoc. Prof. Dr. Ng Eng Poh
(Physical Chemistry)



Dr. Mohd Rizal Razali
(Organic & Inorganic Chemistry)



Dr. Faiz Bukhari Mohd. Suah
(Analytical Chemistry)



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

ADMINISTRATIVE OFFICERS



Dr. Subramaniam A/L Govindan
Principal Assistant Registrar
(HR & Postgraduates)



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

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

COURSE STRUCTURE

(i) Structure of Study Programme

Course Component	Unit Requirement B.App.Sc. (Hons.)
Core (T)	72
Elective (E)	30/10
Minor (M)	0/20
University (U)	18
Total	120

(ii) Industrial Training

Students are encouraged to apply for Industrial Training (KIE361/4) after the 6th semester.

(iii) Chemistry Project

Students are encouraged to register for Chemistry Project (KUE409/6) during their final year of study. This involves conducting research work for 2 semesters and submitting a Chemistry Project report.

Students who do not wish to register for the Chemistry Project (KUE409/6) may fulfill the 6 units requirement by registering other Elective courses offered by the School.

(iv) Assessment

Course assessment will be based on:

- (i) Examination
- (ii) Coursework

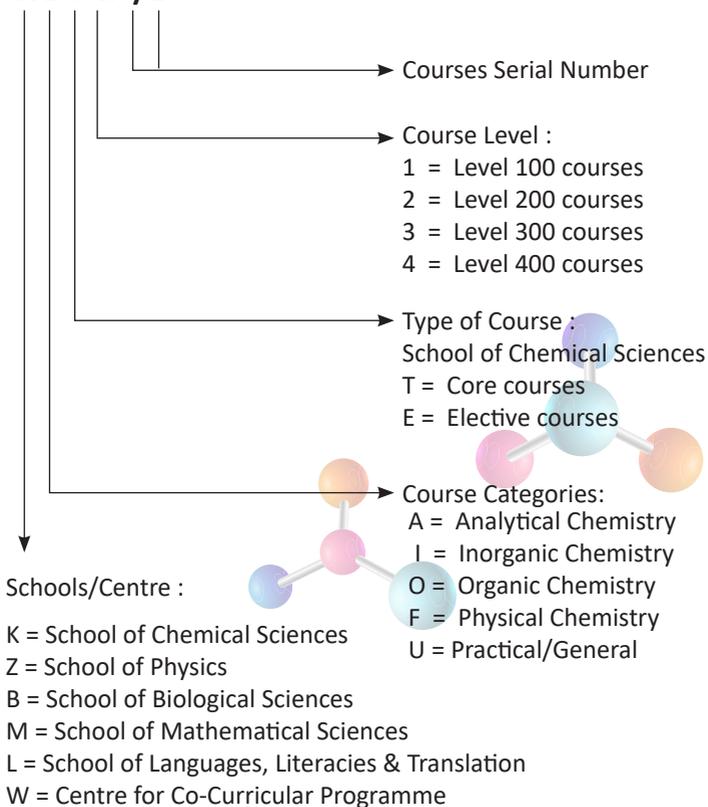
The assessment will cover knowledge, applications, analytical and writing skills. Skills will be assessed through the coursework in the form of assignments, quizzes, tests, presentations and/or laboratory reports.

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



Industrial Chemistry

LIST OF COURSES OFFERED

B.App.Sc. (Hons.) – Applied Science (Industrial Chemistry)		
(i) Core Courses (T) - 72 units		Pre-requisites
MAA102/4 or MAA161/4	Calculus for Science Student 2 or Statistics for Sciences Students	
MAA101/4	Calculus for Science Student 1	
ZCA101/4	Physics I (Mechanics)	
ZCT104/3	Physics IV (Modern Physics)	
KUT101/2	General Chemistry Practical I	
KUT102/2	General Chemistry Practical II	
KTT112/4	Inorganic Chemistry I	
KOT122/4	Organic Chemistry I	
KTT212/3	Inorganic Chemistry II	KTT112 (s)
KOT222/3	Organic Chemistry II	KOT122 (s)
KFT233/4	Physical Chemistry I	KTT112 (s) or KOT122 (s)
KAT245/4	Analytical Chemistry I	KTT112 (s) or KOT122 (s)
KIT257/3	Materials Chemistry	KTT112 (s), KOT122 (s)
KIT258/4	Unit Operations	
KUT305/2	Analytical Chemistry Practical I	KUT101(s), KAT349 (c)
KFT332/3	Physical Chemistry II	KFT233 (s)
KAT349/3	Analytical Chemistry II	KAT245 (s), KUT305 (c)
KIT355/2	Unit Operations Practical	KIT258 (s)
KIT357/2	Industrial Practical	KIT257 (s)
KIT358/3	Polymer Chemistry	KOT122 (s)
KIT458/3	Chemical Processing	KTT112 (s), KOT122 (s)
KUE409/6 or 6 units	Chemistry Project or Other theory courses from Analytical Chemistry, Industrial Chemistry and Pure Chemistry.	

(ii) Elective Courses (E) – 30 units

(a) Compulsory Components – 12 units		Pre-requisites
KUT203/2	Inorganic Chemistry Practical	KUT101 (s)
MAT223/4	Differential Equations I	
KUE306/2	Research Methodology in Chemistry	
KIE361/4	Industrial Training	
(b) Selection of 2 units (minimum)		
KUT206/2	Organic Chemistry Practical	KUT102 (s), KOT122 (s) KUT102(s)
KUT304/2	Physical Chemistry Practical	
(c) Selection of 16 units (minimum)		
KUT407/2	Inorganic and Analytical Chemistry Practical	KUT203 (s), KUT305 (s) KAT344 (s) or KAT349 (s)
KAE445/3	Bioanalysis	
KIE456/3	Food and Palm Oil Chemistry	
KIE458/3	Selected Topics in Industrial Chemistry	
<p>*Additional 5 units to fulfill the elective component must be taken from Pure Chemistry, Analytical Chemistry or other courses from Science Schools.</p>		

(iii) Minor (M) & Elective (E) Programmes - 30 units

Elective (E) Components

Pre-requisites

(a) Selection of 10 units or more

KUE306/2	Research Methodology in Chemistry – (Compulsory)	
KIE361/4	Industrial Training - (Compulsory)	
KUT203/2	Inorganic Chemistry Practical	KUT101 (s)
KUT206/2	Organic Chemistry Practical	KUT102 (s), KOT122 (s)
MAT223/4	Differential Equations I	
KUT304/2	Physical Chemistry Practical	KUT102 (s)
KIE456/3	Food and Palm Oil Chemistry	KOT122 (s)
KIE458/3	Selected Topics in Industrial Chemistry	

Minor (M) Components

(b) Selection of 20 units

Select from any minor programme. Please refer to the book of Minor Programme Guideline

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

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

Proposed Schedule by Semester

B.App.Sc. (Hons.) – Applied Science (Industrial Chemistry)

YEAR 1					
COMPONENT	SEMESTER 1		SEMESTER 2		UNIT
	CODE	UNIT HOURS	CODE	UNIT HOURS	
University Courses (U)	WUS101	2	LSP300	2	
Core Courses (T)	KTT112	4	KOT122	4	
	KUT102	2	KUT101	2	
	MAA101	4	MAA102/ MAA161	4	
	ZCA101	4	ZCT104	3	
TOTAL UNIT HOURS		16		15	31

YEAR 2					
COMPONENT	SEMESTER 3		SEMESTER 4		UNIT
	CODE	UNIT HOURS	CODE	UNIT HOURS	
University Courses (U)	HFF225	2	HFE224	2	
Core Courses (T)	KOT222	3	KTT212	3	
	KAT245	4	KFT233	4	
	KIT257	3	KIT258	4	
Elective (E) or Minor (M) Courses	E/M	3	KUT203 / M	2	
TOTAL UNIT HOURS		15		15	30

Note: HFF225/2 (Falsafah dan Isu Semasa) and HFE224/2 (Penghayatan Etika dan Peradaban) are two new university courses to replace HTU223/2 (Tamadun Islam dan Tamadun Asia-TITAS) and SHE101/2 (Hubungan Etnik).

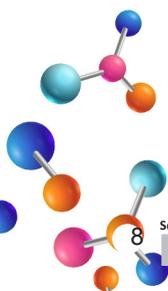
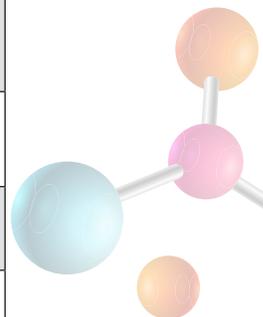
YEAR 3					
COMPONENT	SEMESTER 5		SEMESTER 6		UNIT
	CODE	UNIT HOURS	CODE	UNIT HOURS	
University Courses (U)	LKM400	2	LSP402	2	
	U	2			
Core Courses (T)	KFT332	3	KAT349	3	
	KIT357	2	KUT305	2	
			KIT358	3	
			KIT355	2	
Elective (E) or Minor (M) Courses	KUT206 / KUT304/ Minor	2	KUE306	2	
	MAT223	4			
TOTAL UNIT HOURS		15		14	29

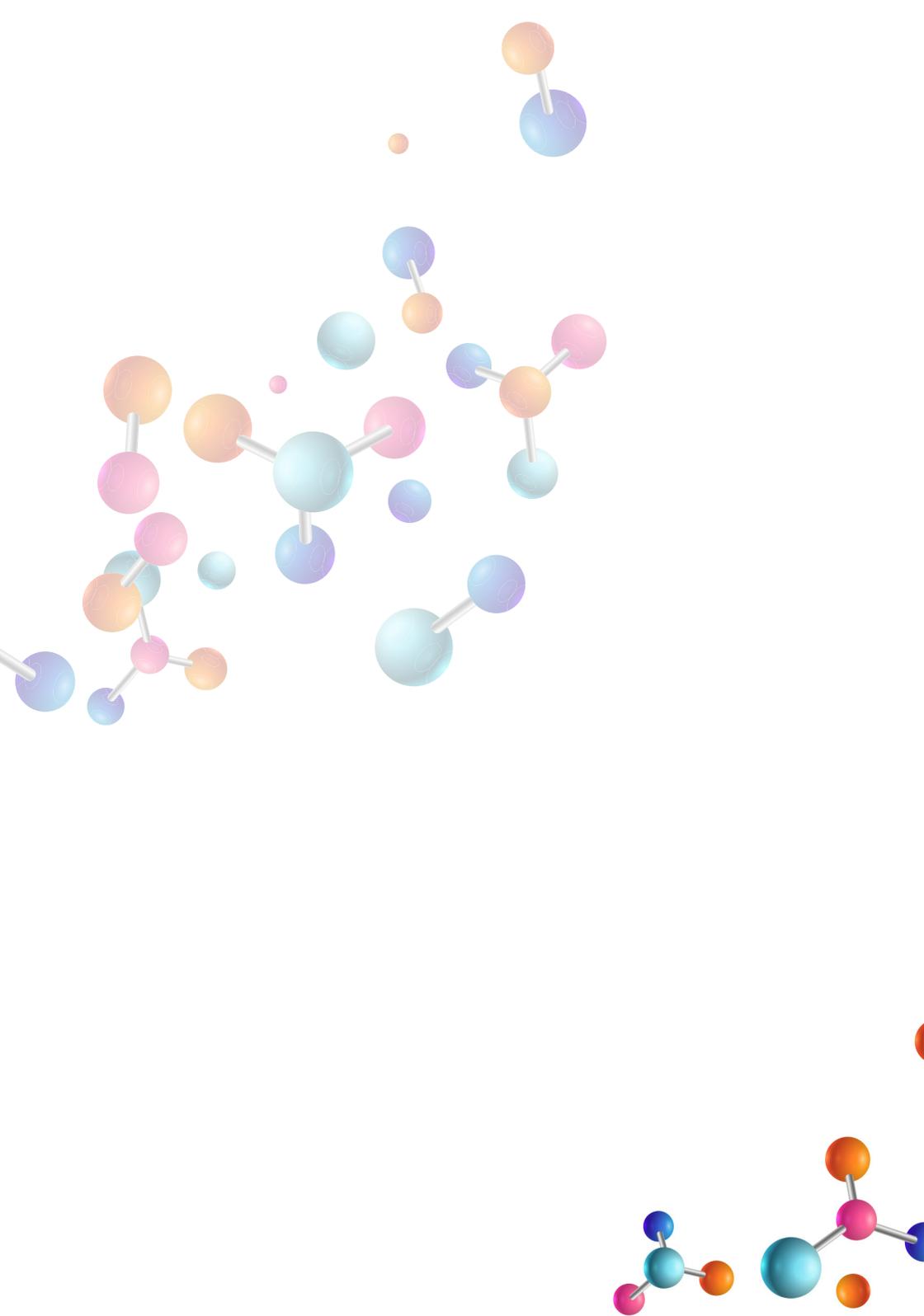
Note: KFT332 can be registered with or without KUT304.

YEAR 4					
COMPONENT	SEMESTER 7		SEMESTER 8		UNIT
	CODE	UNIT HOURS	CODE	UNIT HOURS	
University Courses (U)	U	2	U	2	
Core Courses (T)	KUE409	3	KUE409	3	
			KIT458	3	
Elective (E) or Minor (M) Courses	KIE361	4			
	E/M	4	E/M	6	
	Elective	3			
TOTAL UNIT HOURS		16		14	30
GRAND TOTAL UNIT HOURS					120

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

PLO 1	Knowledge & Understanding
PLO 2	Practical Skills
PLO 3	Cognitiver Skills
PLO 4	Communication Skills
PLO 5	Interpersonal Skills
PLO 6	Ethics and Professionalism
PLO 7	Personal Skills
PLO 8	Entrepreneurial Skills
PLO 9	Leadership, Autonomy and Responsibility
PLO 10	Digital Skills
PLO 11	Numeracy Skills







chem.usm.my



 SCAN ME

School of Chemical Sciences

Universiti Sains Malaysia,
11800 USM, Pulau Pinang,
Malaysia

Tel: +604 - 653 4955

Fax: +604 - 657 4854