

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



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DEAN



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DEPUTY DEANS



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(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)

COURSE STRUCTURE

(i) Structure of Study Programme

Course Component	Unit Requirement B.Sc. (Hons.)
Core (T)	70
Elective (E)	32/12
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 theory courses offered by the School.

(iv) Assessment

Course assessment will be based on:

- (i) Examination
- (ii) Coursework

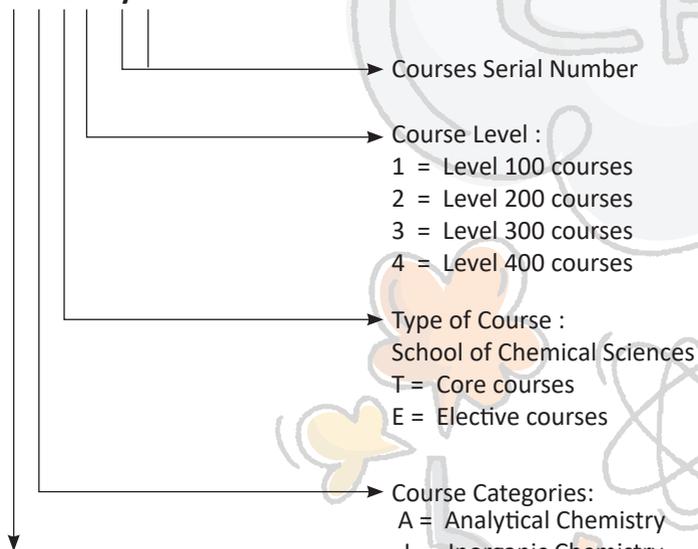
The assessment will cover knowledge, applications, analytical and writing skills. Skills will be assessed through the coursework in the form of assignments, quizzes, tests, presentations and/or laboratory reports.

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



Schools/Centre :

K = School of Chemical Sciences

Z = School of Physics

B = School of Biological Sciences

M = School of Mathematical Sciences

L = School of Languages, Literacies & Translation

W = Centre for Co-Curricular Programme

LIST OF COURSES OFFERED

B.Sc. (Hons.) (Chemistry)

(i) Core Courses (T) - 70 units

Selection of 3 or 4 units		Pre-requisites
ZCT103/3	Physics III (Vibrations, Waves and Optics)	
BOI102/3	Ecology	
BOI115/3	Plant and Animal Biodiversity	
Compulsory - 61 units		Pre-requisites
MAA101/4	Calculus for Science Student 1	
MAA102/4	Calculus for Science Student 2	
KUT101/2	General Chemistry Practical I	
KUT102/2	General Chemistry Practical II	
KTT112/4	Inorganic Chemistry I	
KOT122/4	Organic Chemistry I	
KUT203/2	Inorganic Chemistry Practical	KUT101 (s)
KUT206/2	Organic Chemistry Practical	KUT102 (s), KOT122 (s)
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)
KUT304/2	Physical Chemistry Practical	KUT102 (s)
KUT305/2	Analytical Chemistry Practical I	KUT101 (s), KAT349 (c)
KTT313/3	Inorganic Chemistry III	KTT212 (s)
KFT332/3	Physical Chemistry II	KFT233 (s)
KAT349/3	Analytical Chemistry II	KAT245 (s), KUT305 (c)
KUT407/2	Inorganic and Analytical Chemistry Practical	KUT203 (s), KUT305 (s)
KUT408/2	Physical and Organic Chemistry Practical	KUT206 (s), KUT304 (s)
KOT423/3	Organic Chemistry III	KOT222 (s)
KFT431/3	Physical Chemistry III	KFT332 (s)
Selection of 6 units		
KUE409/6	Chemistry Project	
or	or	
6 units	Other theory courses from Analytical Chemistry, Industrial Chemistry and Pure Chemistry.	

(ii) Elective Courses (E) - 32 units

(a) Selection of 5 units or more

ZCT104/3	Physics IV (Modern Physics)
BOI117/2	Biodiversity and Ecology Practical
BST308/3	Tropical Ecosystem & Climate Change
BST405/3	Conservation Ecology and Natural Resources (Pre-requisite: BST308)
KUE306/2	Research Methodology in Chemistry - (<i>Compulsory</i>)

(b) Selection of 9 units

Pre-requisites

KOE322/3	Natural Products*	KOT222 (s)
KTE411/3	Selected Topics in Inorganic Chemistry	KTT212 (s)
KOE423/3	Selected Topics in Organic Chemistry*	KOT222 (s)
KFE432/3	Special Topics in Physical Chemistry	KFT332 (s)

(c) Selection of 18 units or more

KIE361/4 Industrial Training

Additional of 14 or 18 units to fulfill the elective component must be taken from Analytical Chemistry, Industrial Chemistry and other courses from the School of Physics, Mathematical Sciences, Biological Sciences, Industrial Technology or Centre for Global Archaeological Research.

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

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

* = offer in alternate year

(iii) Minor (M) & Elective (E) Programmes – 32 units**Elective (E) Components**

(a) Selection of 12 units		Pre-requisite
ZCT104/3	Physics IV (Modern Physics)	
BOI117/2	Biodiversity and Ecology Practical	
BST308/3	Tropical Ecosystem & Climate Change	
BST405/3	Conservation Ecology and Natural Resources	BST308
KIT257/3	Materials Chemistry	KTT112 (s), KOT122 (s)
KUE306/2	Research Methodology in Chemistry – (<i>Compulsory</i>)	
KOE322/3	Natural Products*	KOT222 (s)
KAT345/4	Spectroscopic Methods	KAT245 (s)
KIT358/3	Polymer Chemistry	KOT122 (s)
KIE361/4	Industrial Training	
KTE411/3	Selected Topics in Inorganic Chemistry	KTT212 (s)
KOE423/3	Selected Topics in Organic Chemistry*	KOT222 (s),
KFE432/3	Selected Topics in Physical Chemistry	KFT332 (s)
KAE445/3	Bioanalysis	KAT344 (s) or KAT349 (s)
KIE456/3	Food and Palm Oil Chemistry	KOT122 (s)
KIE458/3	Current Topics in Industrial Chemistry	
KIT458/3	Chemical Processing	KTT112 (s), KOT122 (s)

Minor (M) Components**(c) Selection of 20 units**

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

All Minor Programmes offered by other Schools can be taken by the Chemistry Students subjected to the requirements imposed by the School which offers the Minor Programmes such as Management, Computer, Communication, Psychology, English or other Sciences.

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 concurrent)

* = offer in alternate year

Proposed Schedule by Semester

B.Sc. (Hons.) (Chemistry)

YEAR 1					
COMPONENT	SEMESTER 1		SEMESTER 2		UNIT
	CODE	UNIT HOURS	CODE	UNIT HOURS	
University Courses (U)	U	2	LKM400 U	2 2	
	WUS101	2			
Core Courses (T)	KTT112	4	KOT122	4	
	KUT101	2	KUT102	2	
	MAA101	4	MAA102	4	
	BOI102 or BOI115 or ZCT 103	3			
TOTAL UNIT HOURS		17		14	31

YEAR 2					
COMPONENT	SEMESTER 3		SEMESTER 4		UNIT
	CODE	UNIT HOURS	CODE	UNIT HOURS	
University Courses (U)	HFF225	2	HFE224	2	
	LSP300	2			
Core Courses (T)	KOT222	3	KTT212	3	
	KAT245	4	KFT233	4	
	KUT203	2	KUT206	2	
Elective (E) or Minor (M) Courses	Minor	4	Minor	4	
TOTAL UNIT HOURS		17		15	32

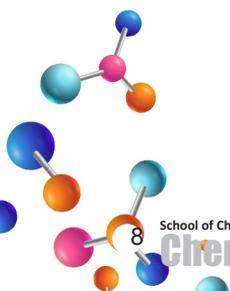
Note: HFF225/2 (Falsafah dan Isu Semasa) and HFE224/2 (Penghayatan Etika dan Peradaban) are two new university courses to replace HTU223/2 (Tamadun Islam dan Tamadun Asia-TITAS) and SHE101/2 (Hubungan Etnik).

YEAR 3					
COMPONENT	SEMESTER 5		SEMESTER 6		UNIT
	CODE	UNIT HOURS	CODE	UNIT HOURS	
University Courses (U)	U	2	LSP402	2	
	KTT313	3	KFT332	3	
Core Courses (T)	KAT349	3	KUT304	2	
	KUT305	2			
Elective (E) or Minor (M) Courses	KUE306	2	Elective	4/3	
	Minor	4	Minor	4	
TOTAL UNIT HOURS		16		15/14	31/30

YEAR 4					
COMPONENT	SEMESTER 7		SEMESTER 8		UNIT
	CODE	UNIT HOURS	CODE	UNIT HOURS	
University Courses (U)			U	2	
Core Courses (T)	KUE409	3	KUE409	3	
	KFT431	3	KOT423	3	
	KUT408 / KUT407	2	KUT407 / KUT408	2	
Elective (E) or Minor (M) Courses	Minor	3	Minor	4	
	KIE361 / E	4			
TOTAL UNIT HOURS		15		14	29
GRAND TOTAL UNIT HOURS					123/122

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



CHEMISTRY





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