

B.App.Sc.(Hons.)

(Analytical Chemistry)
School of Chemical Sciences



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OF CHEMISTRY

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Principal Assistant Registrar
(HR & Postgraduates)



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

B. App. Sc. (Hons.) (Analytical 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 theory courses offered by the School.

(iv) Assessment

Course assessment will be based on:

- (i) Examination
- (ii) Coursework

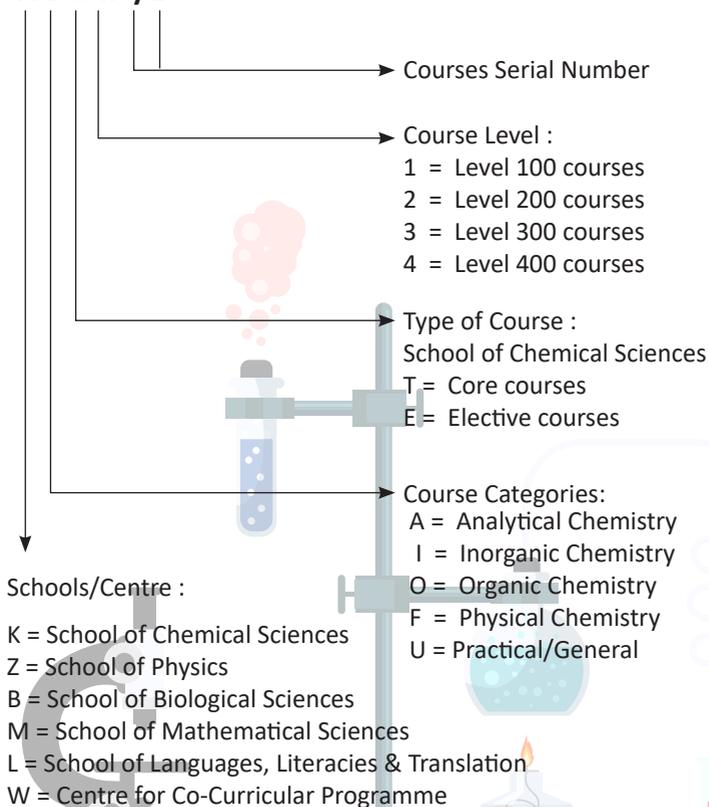
The assessment will cover knowledge, applications, analytical and writing skills. Skills will be assessed through the coursework in the form of assignments, quizzes, tests, presentations and/or laboratory reports.

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



Analytical Chemistry

LIST OF COURSES OFFERED

B.App.Sc. (Hons.) – Applied Science (Analytical Chemistry)		
(i) Core Courses (T) - 72 units		Pre-requisites
MAA101/4	Calculus for Science Student 1	
MAA102/4	Calculus for Science Student 2	
ZCT103/3	Physics III (Vibrations, Waves and Optics)	
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	
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)
KFT332/3	Physical Chemistry II	KFT233 (s)
KAT340/2	Analytical Practical II	
KAT344/4	Separation Methods	KAT245 (s)
KAT345/4	Spectroscopic Methods	KAT245 (s)
KAT346/4	Electroanalytical Methods	KAT345 (s)
KFT431/3	Physical Chemistry III	KFT332 (s)
KAT442/4	Environmental Pollution Chemistry	KAT344 (s), KAT345 (s)
KUE409/6 or 6 units	Chemistry Project or Other theory courses from Analytical Chemistry, Industrial Chemistry or Pure Chemistry	

(ii) Elective Courses (E) - 30 units

(a) Compulsory Components - 16 units

Pre-requisites

MAT181/4	Programming for Scientific Applications	
KUT304/2	Physical Chemistry Practical	KUT102 (s)
KUE306/2	Research Methodology in Chemistry	
KAE348/2	Analytical Chemistry Practical III	KAT345 (s) or KAT349 (s)
KIT358/3	Polymer Chemistry	KOT122 (s)
KAE445/3	Bioanalysis	KAT344 (s) or KAT349 (s)

(b) Selection of 14 units

KIE361/4 Industrial Training

Additional **10 or 14 units** to fulfill the elective component must be taken from Analytical Chemistry, Industrial Chemistry and other courses from the Schools of Physics, Mathematical Sciences, Biological Sciences, Industrial Technology and 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)

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

Elective (E) Components

Pre-requisites

(a) Selection of 10 units or more

MAT181/4	Programming for Scientific Applications – (<i>Compulsory</i>)	
KIT257/3	Materials Chemistry	
KUT304/2	Physical Chemistry Practical – (<i>Compulsory</i>)	KUT102 (s),
KUE306/2	Research Methodology in Chemistry – (<i>Compulsory</i>)	
KIT358/3	Polymer Chemistry	KOT122 (s)
KAE348/2	Analytical Chemistry Practical III	KAT345 (s) or KAT349 (s)
KIE361/4	Industrial Training	
KAE445/3	Bioanalysis	KAT344 (s) or KAT349 (s)

Minor (M) Components

(b) 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 concurrently)

Proposed Schedule by Semester

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

YEAR 1					
COMPONENT	SEMESTER 1		SEMESTER 2		UNIT
	CODE	UNIT HOURS	CODE	UNIT HOURS	
University Courses (U)	WUS101	2	LKM400	2	
Core Courses (T)	KTT112	4	KOT122	4	
	KUT102	2	KUT101	2	
	MAA 101	4	MAA102	4	
	ZCT103	3	ZCT104	3	
Elective (E) or Minor (M) Courses					
TOTAL UNIT HOURS		15		15	30

YEAR 2					
COMPONENT	SEMESTER 3		SEMESTER 4		UNIT
	CODE	UNIT HOURS	CODE	UNIT HOURS	
University Courses (U)	HFF225	2	HFE224	2	
Core Courses (T)			LSP300	2	
	KOT222	3	KTT212	3	
	KFT233	4	KAT245	4	
	KUT206	2			
Elective (E) or Minor (M) Courses	Minor	4	MAT181 (E)	4	
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).

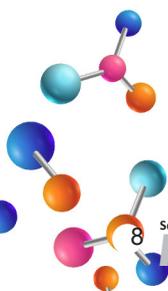
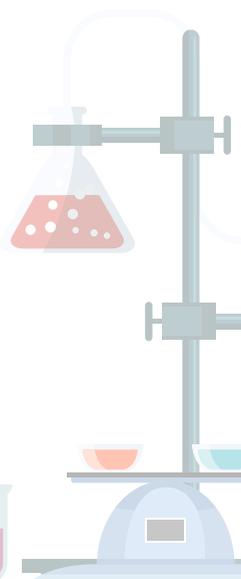
YEAR 3					
COMPONENT	SEMESTER 5		SEMESTER 6		UNIT
	CODE	UNIT HOURS	CODE	UNIT HOURS	
University Courses (U)	U	2	LSP402	2	
Core Courses (T)	KFT332	3	KAT345	4	
	KAT340	2	KAT346	4	
	KAT344	4			
Elective (E) or Minor (M) Courses	KUT304	2	KUE306	2	
	Elective / Minor	2	KAE348 / Minor	2	
			KIT358 / Minor	3	
TOTAL UNIT HOURS		15		17	32

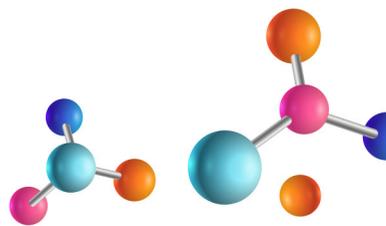
Note: KFT332 can be registered with or without KUT304

YEAR 4					
COMPONENT	SEMESTER 7		SEMESTER 8		UNIT
	CODE	UNIT HOURS	CODE	UNIT HOURS	
University Courses (U)	U	2			
Core Courses (T)	LSP402	2			
	KUE409	3	KUE409	3	
	KFT431	3	KAT442	4	
Elective (E) or Minor (M) Courses	KIE361 /	4	KAE445 / M	3	
			E / M	4	
TOTAL UNIT HOURS		14		14	28
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







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