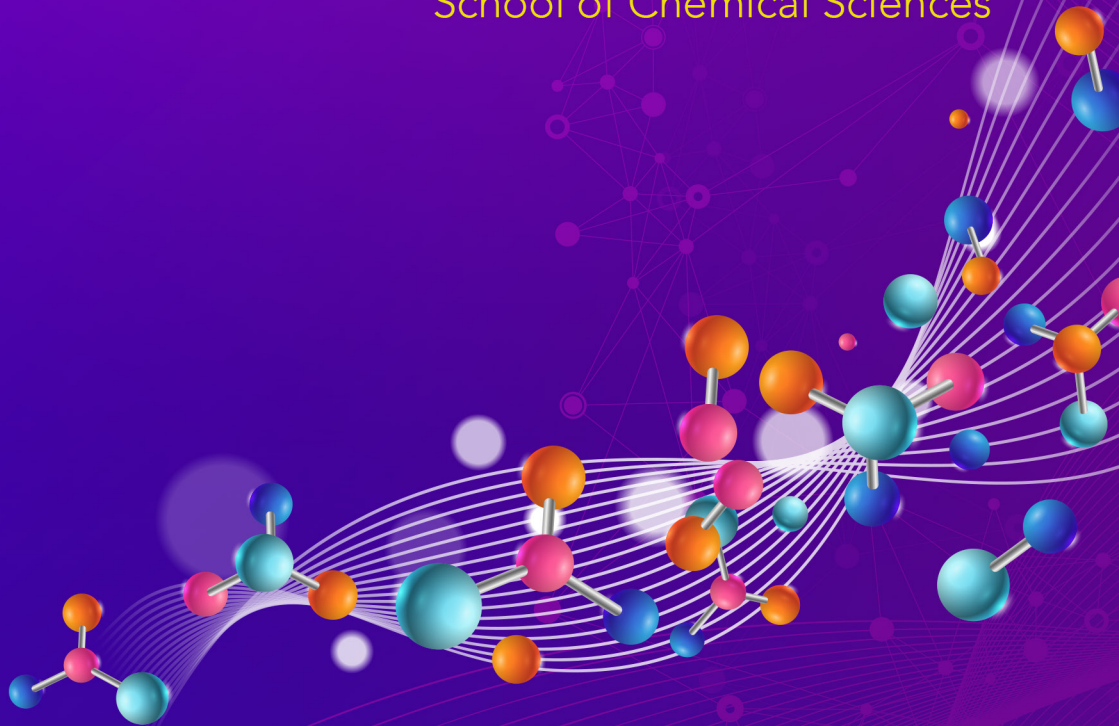


B.App.Sc.(Hons.)

(Analytical 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)



Assoc. Prof. Dr. Mohd Rizal Razali
(Organic & Inorganic Chemistry)



Assoc. Prof. 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.) (Analytical Chemistry)

PROGRAMME 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

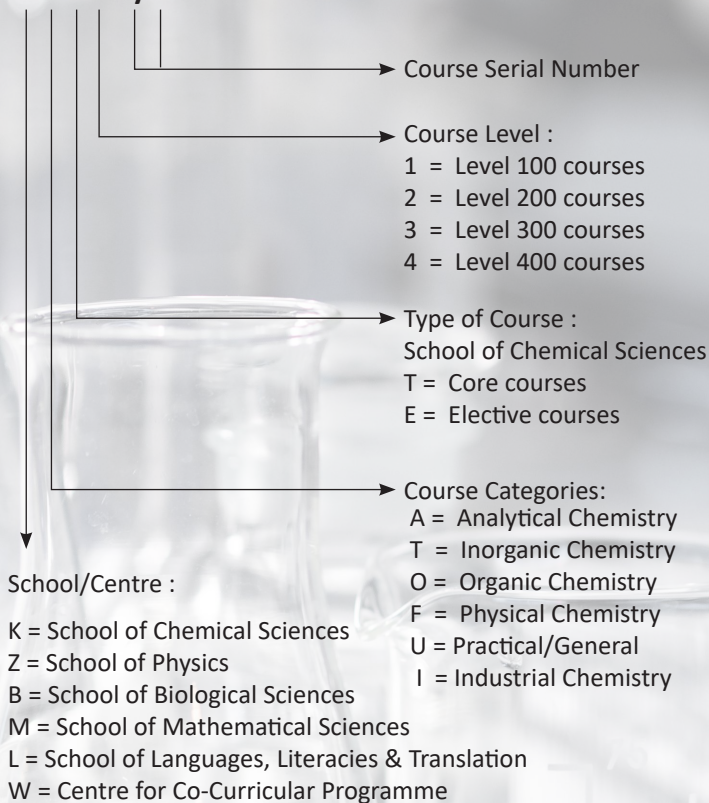
The assessment will cover knowledge, applications, analytical, communication and writing skills. Skills will be assessed through the coursework in the form of assignments, quizzes, tests, presentations and/or laboratory reports.

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), KUT304 (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

(a) Compulsory Components - 16 units		Pre-requisites
MAT181/4	Programming for Scientific Applications	
KUT304/2	Physical Chemistry Practical	KUT102 (s), KFT332(c)
KUE306/2	Research Methodology in Chemistry (Compulsory)	
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		UNITS
	CODE	UNITS	CODE	UNITS	
University Courses (U)	WUS101	2	LKM 400	2	
Core Courses (T)	KTT112	4	KOT122	4	
	KUT102	2	KUT101	2	
	ZCT103	3	ZCT104	3	
	MAA 101	4	MAA102	4	
Elective (E) or Minor (M) Courses					
TOTAL UNITS		15		15	30

YEAR 2					
COMPONENT	SEMESTER 3		SEMESTER 4		UNITS
	CODE	UNITS	CODE	UNITS	
University Courses (U)	*HFF225	2	*HFE224	2	
			LSP300	2	
	KUT206	2	KTT212	3	
	KOT222	3	KAT245	4	
	KFT233	4			
Elective (E) or Minor (M) Courses	Elective / Minor	4	MAT181 (E)	4	
TOTAL UNITS		15		15	30

Note: *HFF225/2 (Falsafah dan Isu Semasa) and HFE224/2 (Penghayatan Etika dan Peradaban)

YEAR 3					
COMPONENT	SEMESTER 5		SEMESTER 6		UNITS
	CODE	UNITS	CODE	UNITS	
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 UNITS		15		17	32

Note: **KFT332 can be registered with or without KUT304

YEAR 4					
COMPONENT	SEMESTER 7		SEMESTER 8		UNITS
	CODE	UNITS	CODE	UNITS	
University Courses (U)	U	4			
Core Courses (T)	KUE409	3	KUE409	3	
	KFT431	3	KAT442	4	
Elective (E) or Minor (M) Courses	KIE361 /	4	KAE445 /	3	
	Elective / Minor		Elective / Minor	4	
TOTAL UNIT HOURS		14		14	28
GRAND TOTAL UNITS					120

Programme Educational Objectives:

In line with the mission of the School of Chemical Sciences, Bachelor of Applied Science (Honours) (Analytical Chemistry) offers high quality science education with the aim to produce:

PEO 1 : Analytical chemist who is able to apply the basic principles and practical skills of analytical chemistry based on conventional and modern chemical techniques.

PEO 2 : Ethical, pure-hearted, resilient analytical chemist who voluntarily involve in the community.

PEO 3 : Analytical chemist who demonstrates leadership skills and communicates effectively in a team to solve chemistry-related problems.

PEO 4 : Analytical chemists who respond consistently to the latest analytical chemistry techniques and demonstrate management and entrepreneurial skills.

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	Cognitiver 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	Solve chemistry-related problems using digital technology and software
PLO 11	Numeracy Skills	Show numerical ability to analyse and solve chemistry-related problem



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