

**Table 8: Courses to be taken by 100 Level students in the
Department of Chemistry and Biochemistry**

Course Code	Course Title	Course Status	Total Units
BIO 101	Organisms and Environment	R	3
BIO 191	Practical Biology I	R	1
CHE 101	Physical Chemistry	C	3
CHE 103	Organic Chemistry	C	3
CHE 191	Experimental Chemistry I	C	1
GNS 101	Use of English I	C	2
GNS 103	People, Culture and Social Issues	C	2
MAT 101	Elementary Mathematics I	R	3
PHY 101	General Physics I	R	3
PHY 191	Practical Physics I	R	1
	Total Units		22
2nd Semester 100 Level			
BIO 102	Principles of Biology	R	3
BIO 192	General Biology II	R	1
CHE 102	Inorganic Chemistry	C	3
CHE 192	Experimental Chemistry II	C	1
GNS 102	Use of English II	C	2
GNS 104	Basic Computer Applications	C	2
MAT 102	Elementary Mathematics II	R	3
PHY 102	General Physics II	R	3
PHY 192	Practical Physics II	R	1
ZAQ 102	The mammalian body	R	3
	Total Units		22

Table 9: Courses at 200 to 400 level for students of Biochemistry Students

Course Code	Course Title	Course Status	Pre Requisite	Total Units
1st Semester 200 Level				
CHE 201	Analytical chemistry I	C	CHE 101	2
BCH 201	General biochemistry I	C	CHE 103 BIO 101	2
CHE 203	Physical chemistry II	C	CHE 101	3
CHE 291	Experimental Chemistry III	C	CHE 191	2
GNS 201	History and philosophy of science	C	-	2
GNS 203	Introduction to French	C	-	2
BIO 201	Introduction to cell biology and genetics	R	-	2
STA 201	Statistics for non-majors	R	-	2
MIC 201	Introductory microbiology	R	-	2
	Total			19
2nd Semester 200 Level				
GNS 204	Introductory French II	C	-	2
GNS 108	Introduction to logic and philosophy	C	-	2
BCH 202	General biochemistry II	C	BCH 201	2
CHE 202	Analytical chemistry II	R	CHE 101 102	2
CHE 206	Inorganic Chemistry II	R	CHE 102	3
CHE 204	Organic chemistry II	C	CHE 103	3
CHE 292	Experimental chemistry IV	C		2
PSB 202	Whole plant physiology	E	-	2
	Total			18
1st Semester 300 Level				
GNS 301	Entrepreneurial skills I	C	-	2
BCH 301	Metabolism of carbohydrates	C	BCH 202	2
BCH 303	Metabolism of lipids	C	BCH 202	2
BCH 305	Metabolism of amino acids and	C	BCH 202	2

Course Code	Course Title	Course Status	Pre Requisite	Total Units
	proteins			
BCH 307	Metabolism of nucleic acids	C	BCH 202	2
BCH 309	Biochemistry methods	C	BCH 201/2	2
BCH 311	Bioenergetics	R	BCH 202	2
BCH 317	Enzymology	R	BCH 201/2	2
CHE 303	Analytical Chemistry III	R	CHE 202	3
BCH 313	Experimental Biochemistry	R		2
	Total			21
2nd Semester 300 Level				
GNS 302	Entrepreneurial skills II	C	-	2
BCH 388	Seminar	C	-	2
BCH 398	Industrial attachment	C	-	6
	Total			10
1ST Semester 400 Level				
CHE 409	Applied spectroscopy	R		2
BCH 401	Advanced biochemical methods	C	BCH 316	2
CHE409	Applied Spectroscopy	R	CHE 204	2
BCH 401	Advanced biochemical methods	C	BCH 309	2
BCH 403	Biosynthesis of macromolecules	C	BCH 301, 3, 5	2
BCH 405	Hormones & Regulation of metabolic processes	C	BCH 301, 3, 5	2
BCH 407	Genetic engineering	R	BCH 307	2
BCH 409	Advanced Enzymology	R	BCH 317	2
BCH415	Functional biochemistry	C	BCH201/2	2
BCH 417	Experimental biochemistry II	C	BCH313	1
BCH 419	Nutritional biochemistry	R	BCH 201/2	2
BCH 421	Food biochemistry	R	BCH 201/2	2
BCH 423	Introductory toxicology	R	BCH 201/2	2

Course Code	Course Title	Course Status	Pre Requisite	Total Units
BCH 425	Membrane biochemistry	C	BCH 303/305	2
	Total			23
2nd Semester 400 Level				
BCH 404	Industrial Biochemistry	R	BCH 398	2
BCH 406	Pharmacological biochemistry	E	-	2
BCH 408	Immunochemistry	C	BCH 305	4
BCH 412	Plant biochemistry	E	BCH201/301	2
BCH414	Bioinorganic chemistry	R	CHE201/203	1
BCH 416	Introductory biotechnology	R	BCH305/307	
BCH499	Project	C		6
	Total			21

Table 10: Courses to be taken by 200 – 400 Level students Industrial Chemistry

Course Code	Course Title	Course Status	Pre requisite	Total Units
1st Semester 200 Level				
CHE 291	Experimental Chemistry III	C	CHE 191	2
CHE 201	Analytical Chemistry I	C	CHE 101	2
CHE 203	Physical Chemistry II	C	CHE 101	2
PHY 201	Classical Physics II	R	PHY 101	2
ICH 201	Industrial Chemistry I	C	CHE 102	2
STA 201	Statistics for non-majors	R	-	2
MIC 201	Introduction to microbiology	E	-	2
GNS 201	History and philosophy of science	C	-	2
GNS 203	Introduction to French I	C	-	2

Course Code	Course Title	Course Status	Pre requisite	Total Units
MAT 201	Mathematical Methods I	R		2
	Total Units			20
2nd Semester 200 Level				
CHE 208	Environmental chemistry	R	-	2
CHE 202	Analytical Chemistry II	C	CHE 101/102	2
CHE 204	Organic Chemistry II	C	CHE 103	2
CHE 206	Inorganic Chemistry II	C	CHE 102	2
GNS 108	Logic and philosophy	C	-	2
GNS 204	Introduction French II	C	-	2
ICH 202	Industrial Chemistry II	R	-	2
ICH 208	Petrochemicals	R	-	2
MAT 202	Introduction to ODE	E	MAT 102	3
ICH 210	Heavy inorganic industrial chemicals	R	-	2
CHE 292	Experimental Chemistry IV	C	CHE 291	2
	Total Units			23
1st Semester 300 Level				
CHE 301	Physical Chemistry III	C	CHE 201	3
CHE 303	Analytical Chemistry III	R	CHE 201/2	3
CHE 307	Inorganic chemistry III	C	CHE 206	3
CHE 305	Organic Chemistry III: Heterocyclics	C	CHE 204	3
MIC 307	Bacteriology	E	-	2
ICH 303	Unit operations	C	ICH 203	2
CHE 309	Organic chemistry IV - macromolecules	R	Concurrent CHE 305	2
GNS 301	Entrepreneurial skills I	C	-	2
CHE 395	Experimental Chemistry V	C	CHE291	2
	Total			22
2nd Semester 300 Level				
ICH 312	Industrial attachment (SIWES)	C		6

Course Code	Course Title	Course Status	Pre requisite	Total Units
GNS 302	Entrepreneurial skills II	C		2
CHE 398	Chemistry Seminar	C		2
	Total			10
1st Semester 400 Level				
CHE 401	Organic Chemistry IV	C	CHE 305	3
CHE 403	Advanced analytical chemistry and applications	C	CHE 303	4
CHE 407	Inorganic Chemistry IV:	C	CHE 307	3
CHE 409	Applied spectroscopy	R	-	3
CHE 421	Advanced electrochemistry	C	CHE 301	3
ICH 411	Unit Operations II	R	ICH 303	3
ICH 495	Experimental chemistry VI	C	CHE 395	2
	Total			21
2nd Semester 400 Level				
ICH 499	Project	C	-	6
CHE 404	Quantum Chemistry	R	CHE 301	3
ICH 402	Special topics in industrial chemistry	R	-	3
CHE 406	Environmental chemistry	R	-	3
ICH 414	Process chemistry	R	-	2
	Total			17

Table 11: Courses to be taken by 200 – 400 Level students Pure Chemistry

Course Code	Course Title	Course Status	Pre requisite	Total Units
1st Semester 200 Level				
CHE 291	Experimental chemistry III	C	CHE 191	2
CHE 201	Analytical Chemistry I	C	CHE 101	2

Course Code	Course Title	Course Status	Pre requisite	Total Units
CHE 203	Physical Chemistry II	C	CHE 101	2
PHY 201	Classical Physics II	R	PHY 101	2
ICH 201	Industrial Chemistry I	C	CHE 102	2
STA 201	Statistics for non-majors	R	-	2
MIC 201	Introduction to microbiology	E	-	2
GNS 201	History and philosophy of science	C	-	2
GNS 203	Introduction to French I	E	-	2
MAT 201	Mathematical Methods I	R		2
	Total Units			20
2nd Semester 200 Level				
CHE 292	Experimental chemistry IV	C	CHE 192	2
CHE 208	Environmental chemistry	R	-	2
CHE 202	Analytical Chemistry II	C	CHE 101/102	2
CHE 204	Organic Chemistry II	C	CHE 103	2
CHE 206	Inorganic Chemistry II	C	CHE 102	2
GNS 108	Logic and philosophy	C	-	2
GNS 204	Introduction French II	E	-	2
ICH 208	Petrochemicals	R	-	2
ICH 210	Heavy inorganic industrial chemic.	R	-	2
	Total Units			18
1st Semester 300 Level				
CHE 301	Physical Chemistry III	C	CHE 201	3
CHE 303	Analytical Chemistry III	R	CHE 201/2	3
CHE 307	Inorganic chemistry III	C	CHE 206	3
CHE 305	Organic Chemistry III: Heterocyclics chemistry	C	CHE 204	3
MIC 307	Bacteriology	E	-	2

Course Code	Course Title	Course Status	Pre requisite	Total Units
CHE 309	Organic chemistry IV (macromolecules)	R	Concurrent CHE 305	2
GNS 301	Entrepreneurial skills I	C	-	2
CHE 395	Experimental chemistry V	C		2
	Total			20
Second Semester				
2nd Semester 300 Level				
ICH 312	Industrial attachment (SIWES)	C	-	6
GNS 302	Entrepreneurial skills II	C	-	2
CHE 398	Chemistry Seminar	C	-	2
	Total			10
1st Semester 400 Level				
CHE 401	Organic Chemistry IV	C	CHE 305	3
CHE 403	Advanced analytical chemistry and applications	C	CHE 303	4
CHE 407	Inorganic Chemistry IV:	C	CHE 307	3
CHE 409	Applied spectroscopy	R	-	3
CHE 421	Symmetry & advanced electrochemistry	C	CHE 301	3
CHE 411	Nuclear and radio chemistry	E	Electives	2
CHE 413	Molecular spectroscopy	E		2
CHE 415	Colloid, surface chemistry and electrochemistry	E		2
CHE 417	X-ray crystallography	E		2
CHE 495	Experimental chemistry VI	C		2
	Total			22
2nd Semester 400 Level				
CHE 499	Project	C	-	6
CHE 404	Quantum Chemistry	R	CHE 301	3

Course Code	Course Title	Course Status	Pre requisite	Total Units
ICH 402	Special topics in industrial chemistry	R	-	3
CHE 406	Environmental chemistry	R	-	2
CHE 408	Organometallics	E	-	2
CHE 410	Advanced chemical kinetics	E	-	2
CHE 412	Synthetic methods	E	-	2
CHE 416	Phytochemistry and biologically active natural products	E	-	2
	Total			18