



DEPARTMENT OF PHYSICAL SCIENCES AND MATHEMATICS
COLLEGE OF ARTS AND SCIENCES
UNIVERSITY OF THE PHILIPPINES MANILA



Bachelor of Science in Biochemistry

First Year

1 st Semester			2 nd Semester		
Subject	Units	Prerequisites	Subject	Units	Prerequisites
Chem 19 (Principles of Chemistry)	5		Chem 29 (Analytical Chemistry I)	5	Chem 19
Math 83 (Essentials of Analysis I)	5		Chem 33 (Organic Chemistry I)	5	
Math 101 (Elementary Statistics)	3		Math 84 (Essentials of Analysis II)	5	Math 83
GE 1	3		GE 3	3	
GE 2	3		PE 2	(2)	
PE 1	(2)		NSTP 2	(3)	
NSTP 1	(3)				
Total	19		Total	18	

First Year Mid Semester

Subject	Units	Prerequisites
Chem 111 (Inorganic Chemistry I)	3	Chem 19
GE 4	3	
Total	6	

Second Year

1 st Semester			2 nd Semester		
Subject	Units	Prerequisites	Subject	Units	Prerequisites
Chem 36 (Organic Chemistry II)	5	Chem 33	Biochem 71 (Professional Ethics, Legal, and Social Issues in Chemistry and Biochemistry)	1	
Chem 43 (Biochemistry I)	5	Chem 19, Chem 33	Chem 46 (Biochemistry II)	4	Chem 43
Math 85 (Essentials of Analysis III)	3	Math 84	Chem 128 (Analytical Chemistry II)	5	Chem 29, Chem 33
Physics 71 (Elementary Physics I)	4	Math 83 or equivalent	Physics 72 (Elementary Physics II)	4	Physics 71
Physics 71.1 (Elementary Physics I Laboratory)	1	Physics 71 (co-requisite)	Physics 72.1 (Elementary Physics II Laboratory)	1	Physics 71.1, Physics 72 (co-requisite)
PE 3	(2)		Bio 110 (Integrated Principles of Biology)	5	
			PE 4	(2)	
Total	18		Total	20	

Second Year Mid Semester

Subject	Units	Prerequisites
GE 5	3	
GE 6	3	
Total	6	

Third Year

1 st Semester			2 nd Semester		
Subject	Units	Prerequisites	Subject	Units	Prerequisites
Bio 120 (Microbiology)	5	Bio 110	Biochem 121 (Biochemistry of the Gene)	3	Chem 43
Chem 161 (Physical Chemistry I)	5	Chem 19, Math 85, Physics 72, Physics 72.1	Biochem 122 (Techniques in Biochemistry and Molecular Biology)	2	Chem 43, Biochem 121 (co-requisite)
Chem 129 (Analytical Chemistry III)	4	Chem 128	Biochem 198 (Seminar)	1	Junior Standing
GE 7	3		Chem 162 (Physical Chemistry II)	5	Chem 161
GE 8	3		Chem 163 (Physical Chemistry III)	3	Math 85, Physics 72, Physics 72.1
			CMSC 110 (Foundations of Biocomputing)	3	
Total	20		Total	17	

Third Year Mid Semester

Subject	Units	Prerequisites
Biochem 190 (Practicum)	3	Junior Standing
Total	3	

Fourth Year

1st Semester			2nd Semester		
Subject	Units	Prerequisites	Subject	Units	Prerequisites
Biochem 125 (Physical Biochemistry)	5	Chem 46, Chem 162	Biochem 168 (Environmental Biochemistry)	3	Chem 46
Biochem 180 (Biochemical Engineering)	4	Biochem 121, Biochem 122	Biochem 200 (Thesis)	3	Biochem 199
Biochem 181 (Introduction to Bioinformatics)	2	Biochem 121, CMSC 110	Elective 1	3	
Biochem 199 (Research Methods in Biochemistry)	3	Biochem 198	Elective 2	3	
Chem 112 (Inorganic Chemistry II)	3	Chem 111, Chem 163	PI 100 (The Life and Works of Jose Rizal)	3	
Total	17		Total	15	

GE Courses (Students are required to take only eight (8) of the following GE courses)

- Critical Perspectives in Communication (Comm 10)
- Critical Perspectives in the Arts (Arts 1)
- Ethics and Moral Reasoning for Everyday Life (Ethics 1)
- Kasaysayan ng Pilipinas (Kas 1)
- Living Systems: Concepts and Dynamics (Science 11)
- Mathematics, Culture and Society (Math 10)
- Philippine Arts and Culture (PhilArts 1)
- Probing the Physical World (Science 10)
- Science, Technology and Society (STS 1)
- Self and Society (SAS 1)
- Wika, Kultura at Lipunan (Wika 1)

Electives

Subject	Units	Prerequisites
Biochem 158 (Introduction to Biochemical Complex Systems)	3	Chem 46, Math 101, Math 85
Chem 191 (Bioconjugate Chemistry)	3	Chem 36, Chem 43
Chem 192 (Nanochemistry)	3	Chem 128, Chem 112
Chem 137 (Nutraceutical and Cosmeceutical Chemistry)	3	Chem 29, Chem 33
Chem 154 (Management and Entrepreneurial Chemistry)	3	Chem 19
Chem 136 (Polymer Chemistry)	3	Chem 36, Chem 162
Chem 172 (Introduction to Medicinal Chemistry)	3	Chem 36
Chem 193 (Forensic Chemistry)	3	Chem 43, Chem 128
Biochem 130 (Nutritional Biochemistry)	3	Chem 46, Chem 36
Biochem 155 (Industrial Biochemistry)	2	Chem 46
Biochem 157 (Bioenergetics)	3	Biochem 125
Biochem 159 (Membrane Biochemistry)	3	Biochem 125, Chem 36
Biochem 170 (Computational Tools in Biochemistry)	2	Biochem 125, Chem 36
Biochem 175 (Immunobiochemistry)	3	Chem 46, Chem 36
Biochem 191 (Biochemical Evolution)	3	Bio 120, Biochem 121, Biochem 122
Chem 124 (Bioinorganic Chemistry)	3	Chem 46
Chem 135 (Chemistry of Natural Products)	3	Chem 46
Chem 155 (Industrial Chemistry)	3	Chem 162
Chem 197 (Special Topics in Applied Chemistry)	3	Chem 36, Chem 128