

## Chemical & Biomedical Engineering Program Road Map 2022-23

This program layout applies to students registered in 2022-2023.

Where there are discrepancies in this document, the published [Academic Calendar](#) will always take precedence.

For a detailed breakdown of your course requirements, please refer to your Advisement Report in Mosaic.

CHEMICAL & BIOMEDICAL - LEVEL II						
	TERM 1			TERM 2		
<b>CHEMICAL CORE</b>	Engineering Mathematics III	MATH 2Z03	3	3	MATH 2ZZ3	Engineering Mathematics IV
	Chemical Engineering Principles I	CHEMENG 2D04	4	4	CHEMENG 2F04	Chemical Engineering Principles II
	Numerical Methods and Computing for Chemical Engineers	CHEMENG 2E04	4	4	CHEMENG 2004	Fluid Mechanics
<b>IBIOMED CORE</b>	Inquiry II: Biochemistry	HTHSCI 2E03	3	3	IBEHS 2P03	Health Solutions Design Projects II: Introduction to Genetic Engineering
	Human Physiology & Anatomy I	HTHSCI 2F03	3	3	HTHSCI 2FF3	Human Physiology & Anatomy II
				3	CHEM 1AA3	Introductory Chemistry II
	<b>TOTAL TERM 1 UNITS</b>		17	20	<b>TOTAL TERM 2 UNITS</b>	
	<b>TOTAL UNITS:</b>		37			

CHEMICAL & BIOMEDICAL - LEVEL III						
	TERM 1			TERM 2		
<b>CHEMICAL CORE</b>	Heat Transfer	CHEMENG 3A04	4	4	CHEMENG 3K04	Introduction to Reactor Design
	Chemical Engineering Thermodynamics	CHEMENG 3D04	4	4	CHEMENG 3G04	Chemical Process Design and Simulation
	Mass Transfer & Stagewise Operations	CHEMENG 3M04	4	3	ELECTIVE	Complementary Studies
<b>IBIOMED CORE</b>	Statistics & Epidemiology 1	HTHSCI 2G03	3	3	HTHSCI 3G03	Critical Appraisal of the Medical Literature
	Biomedical Signals and Systems	IBEHS 3A03	3	4	IBEHS 3P04	Health Solutions Design Projects III: Analysis and Decision Making
	Introductory Organic Chemistry OR Organic Chemistry I	CHEM 2E03 OR CHEM 20A3	3			
	<b>TOTAL TERM 1 UNITS</b>		21	18	<b>TOTAL TERM 2 UNITS</b>	
	<b>TOTAL UNITS:</b>		39			

## CHEMICAL & BIOMEDICAL - LEVEL IV

	TERM 1			TERM 2		
<b>CHEMICAL CORE</b>	Data Acquisition and Analysis	CHEMENG 3I03	3	4	CHEMENG 3P04	Process Control
	Chemical Engineering Technical Elective (from list)	ELECTIVE	3	3	CHEMENG 3L03	Intermediate Laboratory Skills
	Introduction to Bio-Analytical Chemistry	CHEMBIO 2A03	3			
<b>IBIOMED CORE</b>	Biomechanics	IBEHS 4B03	3	4	ELECTIVE	IBEHS Technical Elective
	Biomedical Instrumentation and Measurement	IBEHS 4F04	4	3	IBEHS 4C03	Statistical Methods in Biomedical Engineering
	Health Solutions Design Projects IV: Economics and Project Management	IBEHS 4P04	4	3	IBEHS 4D03	Introduction to Medical Imaging
	<u>TOTAL TERM 1 UNITS</u>		20	17	<u>TOTAL TERM 2 UNITS</u>	
	<u>TOTAL UNITS:</u>		37			

## CHEMICAL & BIOMEDICAL - LEVEL V

	TERM 1			TERM 2		
<b>CHEMICAL CORE</b>	Advanced Laboratory Skills	CHEMENG 4L03	3	3	ENGINEER 4A03	Ethics, Equity and Law in Engineering
	Engineering Economics & Problem Solving	CHEMENG 4N04	4	3	ELECTIVE	Chemical Engineering Technical Elective (from list)
	Chemical Engineering Technical Elective (from list)	ELECTIVE	3	3	ELECTIVE	Complementary Studies
	Chemical Engineering Technical Elective (from list)	ELECTIVE	4	3	ELECTIVE	Complementary Studies
<b>IBIOMED CORE</b>	Biomedical Capstone Design Project	CHEMBME 5P06A	3	3	CHEMBME 5P06B	Biomedical Capstone Design Project
	Modelling of Biological Systems	IBEHS 4QZ3	3	3	ELECTIVE	IBEHS Technical Electives
	<u>TOTAL TERM 1 UNITS</u>		20	18	<u>TOTAL TERM 2 UNITS</u>	
	<u>TOTAL UNITS:</u>		38			