

# ENGINEERING CHEMISTRY, B.A.SC. (CLASS OF 2024)

## Second Year CORE 2021-2022

Code	Title	Units
CHEE 209	Analysis Of Process Data	3.50
CHEE 221	Chemical Processes And Systems	3.50
CHEE 270	ChemEtronics	3.00
ENCH 211	Main Group Chemistry	4.75
ENCH 212	Princip Of Chem Reactivity	4.00
MTHE 225	Ordinary Differential Equations	3.50
APSC 200	Engineering Design & Practice II	4.00
APSC 293	Engineering Communications	1.00
CHEE 210	Thermodynamics of Energy Conversion Systems	3.50
CHEE 222	Process Dynamics & Num Methods	3.50
CHEE 223	Fluid Mechanics	3.50
ENCH 222	Meth Struct Determination	3.75
ENCH 245	Applied Organic Chemistry I	4.75
<b>Total Units</b>		<b>46.25</b>

## Third Year CORE 2022-2023

Code	Title	Units
CHEE 311	Fluid Phase And Reaction Equilibrium	3.50
CHEE 321	Chemical Reaction Engineering	3.50
CHEE 330	Heat And Mass Transfer	3.50
CHEE 380	Biochemical Engineering	3.50
ENCH 213	Intro To Chemical Analysis	4.75
ENCH 312	Transition Metal Chem	3.50
APSC 221	Economic And Business Practice	3.00
CHEE 331	Design of Unit Operations	4.50
CHEE 361	Engineering Communications, Ethics & Professionalism	1.00
CHEE 363	Electrochemical Engineering	3.50
ENCH 399	Experimental Chemistry II	3.50
Electives		6.00
<b>Total Units</b>		<b>43.75</b>

## Fourth Year CORE 2023-2024

Code	Title	Units
CHEE 460	Appl Surface & Colloid Science	3.50
ENCH 313	Quantum Mechanics	3.50
CHEE 471	Chemical Process Design	7.00
ENCH 417	Research Project	9.00
CHEE 324	Organic Process Development	3.50
CHEE 415	Engineering Chemistry Laboratory	4.00

CHEE 463	Electrochemical Energy Systems	3.50
Electives (Minimum 12 credits)		12.00
<b>Total Units</b>		<b>46.00</b>

## Technical Electives

Students in the ENCH program are required to take two (2) courses from the approved Group A list (any combination from Materials, Environment, Biosciences, and General lists), and one (1) course from the approved Group B list.

Engineering Chemistry: Technical Electives (<https://queensu-ca-public.courseleaf.com/engineering-applied-sciences/academic-plans/engineering-chemistry/engineering-chemistry-technical-electives/>)

## Complementary Studies

Students choose a total of 9 credits from the approved Lists A or B, of which 3 credits must be taken from List A.

Refer to the Complementary Studies section of this calendar for details regarding the requirements for all Engineering plans.

## Engineering Economics

To meet the engineering economics requirement, students take APSC 221 Economic And Business Practice.

## Communications

To meet the communications requirement, students take APSC 293 Engineering Communications and CHEE 361 Engineering Communications, Ethics & Professionalism (these are **Core** courses).