Concordia BSc in Environmental and Sustainability Science (CHEM Stream)

A multidisciplinary program for the future leaders in environmental science and sustainability. Available after CEGEP or the Science Profile (ECP). BSc Specialization or Honours only (no Major), Co-op offered.

ESS Core Program (33 credits = 11 courses)

CHEM 212 (Analytical Chemistry for Biologists) ^a or CHEM 217 (Introductory Analytical Chemistry I) ^a Chemistry:

CHEM 283 (Air, Water and Soil Processes)

Biology: BIOL 225 (Form and Function of Organisms)

BIOL 226 (Biodiversity and Ecology)

BIOL 322 (Biostatistics)

Geography/Geology: GEOG 264 (Programming for Environmental Sciences)

GEOG 272 (The Natural Environment: Air and Water)

GEOG 290 (Environment and Society)

GEOG 363 (Geographic Information Systems)

GEOL 210 (Introduction to the Earth)

Capstone Seminar: CHEM 487 (Capstone Seminar in Environmental Science, requires 30 core credits)

ESS Specialization (Chemistry/Biochemistry Stream) = Core plus 30 credits:

CHEM 218 (Introductory Analytical Chemistry II) ^a 3 credits from:

CHEM 234 (Physical Chemistry I: Thermodynamics)

CHEM 235 (Physical Chemistry II: Kinetics of Chemical Reactions)

3 credits: CHEM 312 (Intermediate Analytical Chemistry)

9 credits from (6 credits must be CHEM courses):

CHEM 221 (Introductory Organic Chemistry I) b CHEM 222 (Introductory Organic Chemistry II) b

CHEM 241 (Inorganic Chemistry I: Introduction to Periodicity and Valence Theory)

CHEM 271 (Biochemistry I)

BIOL 261 (Molecular and General Genetics)

GEOG 375 (Hydrology)

GEOG 378 (The Climate System)

6 credits from: BIOL 367 (Molecular Biology)

CHEM 375 (Biochemistry II)

CIVI 361 (Introduction to Environmental Engineering)

GEOG 377 (Landform Evolution)

9 credits from: CHEM 458 (Aquatic Biogeochemistry)

CHEM 470 (Environmental Biochemistry)

CHEM 472 (Chemical Toxicology)

CHEM 498 (Advanced Topics in Chemistry, several different courses offered every year)

BIOL 459 (Aquatic Ecology)

CIVI 467 (Air Pollution and Emission Control)

CIVI 468 (Waste Management)

CIVI 469 (Geo-Environmental Engineering) GEOG 470 (Environmental Management) GEOG 475 (Water Resource Management)

GEOG 476 (Indigenous and Environmental History of Americas since 1492)

GEOG 478 (Climate Change: Science, Impacts and Policy)

GEOL 440 (Seminar in Current Research on Environmental Earth Science)

ESS Honours (Chemistry/Biochemistry Stream) = Core plus Specialization plus:

6 credits: CHEM 450 (Research Project and Thesis)

In all cases: plus Elective Courses to Complete your Credit and Program Requirements

Co-op option available. Please e-mail dr.x@concordia.ca

^a Lab exemption possible for students entering from Dawson's Laboratory Technology – Analytical Chemistry program. ^b CEGEP equivalents of CHEM 221 and CHEM 222 can be used as prerequisites if they are declared upon application to the program.

CHEM Course numbering system

First digit gives level 200 = introductory 400 = advanced 300 = intermediate

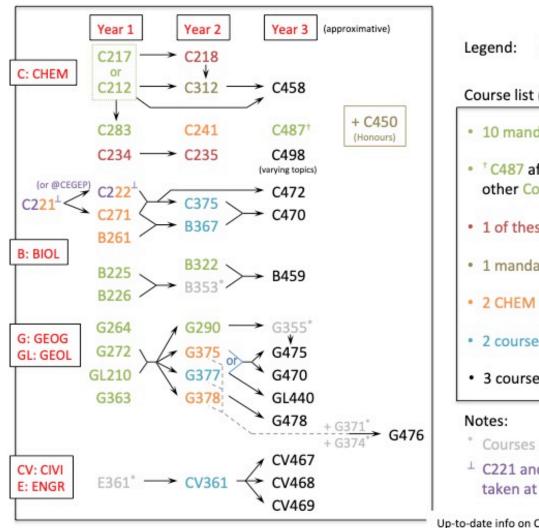
Middle digit denotes 1 = analytical, 2 = organic, 3 = physical,4 = inorganic, 5 = multidisciplinary, 9 = spectroscopy/spectrometry

chemistry discipline 7 = biochemistry, 8 = environmental,

Last digit gives sequence

ESS/CHEM Course Flowchart

Please refer to this flowchart to plan your course path and the appropriate sequence of prerequisite courses



is a prerequisite for 221 222

Course list (not counting electives):

- 10 mandatory Core courses
- C487 after completing the 10 other Core courses
- · 1 of these courses
- 1 mandatory course (C312)
- 2 CHEM + 1 other of these
- 2 courses among these
- · 3 courses among these
- * Courses outside ESS/CHEM program
- [⊥] C221 and/or C222: exempted if taken at CEGEP (and declared)

Up-to-date info on Class Schedule Guide & Dept websites

Note: not all courses are offered every term (Fall, Winter, Summer). Generally, CHEM courses are offered on both Fall and Winter terms, except:

C217 Fall only C218 Winter only C271 Fall, Winter and odd-year Summers

C312 Fall and even-year Summer terms C375 Winter and Summer terms

Information in this document is subject to change. Please refer to the official Concordia platforms (Class Schedule, Undergraduate Calendar) for up-to-date information.