NORTHWESTERN POLYTECHNIC

DEPARTMENT UPGRADING DEPARTMENT

COURSE OUTLINE – Winter 2025

# CH0130 (A3): Chemistry Grade 12 Equivalent 5 (5-0-2) HS

105 Hours for 15 Weeks

Northwestern Polytechnic acknowledges that our campuses are located on Treaty 8 territory, the ancestral and present-day home to many diverse First Nations, Metis, and Inuit people. We are grateful to work, live and learn on the traditional territory of Duncan's First Nation, Horse Lake First Nation and Sturgeon Lake Cree Nation, who are the original caretakers of this land.

We acknowledge the history of this land and we are thankful for the opportunity to walk together in friendship, where we will encourage and promote positive change for present and future generations.


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|---|---|---|---|
| **INSTRUCTOR:** | James Iverson | **PHONE:** | 780-539-2850 |
| **OFFICE:** | C407 | **E-MAIL:** | jiverson@nwpolytech.ca |
| **OFFICE HOURS:** | Tuesday 1:00-2:00PM, Friday 10:00-11:00PM or by appointment | | |


**CALENDAR DESCRIPTION:** Course concepts include: thermochemical changes; electrochemical changes; chemical equilibrium focusing on acid-base systems; and chemical reactions of select classes of organic compounds. Energy changes and safety are emphasized.

**PREREQUISITE(S):**

- Complete All of the following:
  - CH0120 (Chemistry 20)
  - A student may register in CH0130 if the student has achieved a mark of 60% or better in Alberta Education Chemistry 20 or equivalent within the previous four years permission of the instructor.
  - MA0122 (Math 20-2) or MA0120 (Math 20-1)

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## REQUIRED MATERIALS:

Nelson Chemistry (Alberta 20-30) (Recommended)

Chemistry Data Booklet (can be printed from myClass)

Scientific non-programmable calculator (if you need to purchase, TI-30XIIS is recommended)

Lab Coat (may be purchased at the NWP Bookstore)

Lab Safety Glasses (may be purchased at the NWP Bookstore or Home Depot, Northern Metallic or Gregg Distributing)

1 mm graph paper

**DELIVERY MODE(S):** Classroom instruction and labs. Use of D2L required.

## LEARNING OUTCOMES:

As a result of taking this class students will:

- determine and interpret energy changes in chemical reactions
- explain and communicate energy changes in chemical reactions
- explain the nature of oxidation-reduction reactions
- apply the principles of oxidation-reduction to electrochemical cells
- explore organic compounds as a common form of matter
- describe chemical reactions of organic compounds
- explain that there is a balance of opposing reactions in chemical equilibrium systems
- determine quantitative relationships in simple equilibrium systems

## TRANSFERABILITY:

Please consult the Alberta Transfer Guide for more information. You may check the transferability of this course at the Alberta Transfer Guide main page http://www.transferalberta.alberta.ca.

** For courses with alpha (letter) grading, a grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. **Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability.**

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**EVALUATIONS:** Course final grade will be based on the following components.

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|---|---|
| Unit Tests (equally weighted) | 50% |
| Labs | 10% |
| Pre- Labs, Assignments, Quizzes | 10% |
| Final Exam (Cumulative) | 30% |

**GRADING CRITERIA:**

Please note that most institutions will not accept your course for transfer credit **IF** your grade is **less than C-**.

| Alpha Grade | 4-point Equivalent | Percentage Guidelines | Alpha Grade | 4-point Equivalent | Percentage Guidelines |
|---|---|---|---|---|---|
| A+ | 4.0 | 95-100 | C+ | 2.3 | 67-69 |
| A | 4.0 | 85-94 | C | 2.0 | 63-66 |
| A- | 3.7 | 80-84 | C- | 1.7 | 60-62 |
| B+ | 3.3 | 77-79 | D+ | 1.3 | 55-59 |
| B | 3.0 | 73-76 | D | 1.0 | 50-54 |
| B- | 2.7 | 70-72 | F | 0.0 | 00-49 |

**COURSE SCHEDULE/TENTATIVE TIMELINE:** see myclass for detailed schedule

| | |
|---|---|
| Thermodynamics Exam | Friday January 31 |
| Electrochemistry Exam | Friday March 7 |
| Equilibrium Exam | Wednesday March 26 |
| Organic Chemistry Exam | Friday April 11 |

**STUDENT RESPONSIBILITIES:**

Refer to the Polytechnic's Policy on Student Rights and Responsibilities at https://www.nwpolytech.ca/about/administration/policies/fetch.php?ID=69

We ask the cooperation of all students in the following areas of classroom deportment.

1. Attendance: Regular attendance and class participation is expected of all students and is crucial to good performance in the course. You may be debarred from the final exam if your absences exceed 15% of class days (10 lecture classes).
2. Check myClass as well as NWP email on a regular basis. Any changes to the Course Schedule or Exam Dates will be communicated on myClass.
3. Assignments must be submitted on time. Labs are due the
4. Exams must be written on the days announced in class.
5. If an emergency prevents attendance on an exam day, students must contact me before the end of the exam (as soon as possible) via phone or email and may be asked to provide documentation to justify their absence.
6. No unspecified electronic devices will be permitted during exams.
7. Complete daily homework. At least 1.5 hours of study per day outside of class time is required.
8. Behaviors that interfere with anyone's learning are not acceptable.
9. Take responsibility for your learning.
10. Communicate all requests regarding appointments, etc via email

## STATEMENT ON ACADEMIC MISCONDUCT:

Academic Misconduct will not be tolerated. For a more precise definition of academic misconduct and its consequences, refer to the Student Rights and Responsibilities policy available at https://www.nwpolytech.ca/about/administration/policies/index.html.

**Note: all Academic and Administrative policies are available on the same page.