



*Unit 2: Hydraulic Principles.*

Lesson 1 – Hydraulic Principles

*Unit 3: Hydraulic System Components*

Lesson 1 – Fluid Reservoirs and Hoses

Lesson 2 – Hydraulic Fluids and Fluid Conditioners

Lesson 3 – Hydraulic Pumps and Motors

Lesson 4 – Pressure Control Valves

Lesson 5 – Direction Control Valves

Lesson 6 – Flow Control Valves

Lesson 7 – Cylinders

**Alberta Apprenticeship and Industry Training Individual Learning Modules  
Heavy Equipment Technician (HET)**

190103g – Hydraulic Fundamentals

190103h – Hydraulic System Components: Reservoir, Filters, Hoses and Coolers

190103i – Hydraulic System Components: Pumps, Valves, and Cylinders

**DELIVERY MODE(S):**

In person – Onsite. This course is delivered in person at the NWP Fairview campus.

- Note: NWP reserves the right to change the course delivery.

**LEARNING OUTCOMES:**

Hydraulic Safety

Hydraulic Principles

Hydraulic System Components

**TRANSFERABILITY:** None.

**CREDIT/CONTACT HOURS:** Credits: 2.0 / Contact Hours: 56.

**GRADING CRITERIA:**

A passing grade in this course is a **minimum of 70%**.

**Hydraulic Fundamentals** ..... **56 / 240 hours = 23 %**  
**of Semester 1 mark**

**Exams Average =** \_\_\_\_\_ **x 45%**

**Class Assignments/Quizzes =** \_\_\_\_\_ **x 30%**

**Shop Total** \_\_\_\_\_ **x 25%**

**HES 141 VB11 FINAL MARK = \_\_\_\_\_ %**

Grades for this course will be assigned as a percentage.

**COURSE SCHEDULE/TENTATIVE TIMELINE:**

March 3 to April 25, 2025

**STUDENT RESPONSIBILITIES:**

This is an adult education environment. Enrolment at Northwestern Polytechnic assumes that the student will become a responsible citizen of NWP. As such, each student will display a positive work ethic, take pride in, and assist in the maintenance and preservation of Institute property, and assume responsibility for his/her education by researching academic requirements and policies, demonstrating courtesy and respect toward others; and respecting instructor expectations concerning attendance, classroom and shop rules, safety, assignments, deadlines and appointments. Students are learning skills to prepare them for the work environment. Non-academic misconduct, including the possession, use, or distribution of intoxicants, will be addressed through the Student Rights and Responsibilities policy.

Students are expected to attend all class and shop hours. Students who miss more than 21 hours or 3 days of classes may be removed from the course.

Absences will be monitored and recorded by the instructors.

- Upon reaching 7 hours missed time in a single semester the student will be required to meet with the program Chair.

- Upon reaching 14 hours missed time in a single semester the student will be required to meet with the program Chair and the Dean.
- Upon reaching 21 hours missed time in a single semester the student will be required to meet with the program Chair, the Instructor and the Dean to evaluate the students' ability successfully continue in the Think BIG program.

**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.