

DEPARTMENT OF TRANSPORTATION TRADES THINKBIG SERVICE TECHICIAN COURSE OUTLINE – FALL 2022 OCTOBER 24, 2022 – DECEMBER 16, 2022 HES121 VB12 – INTRODUCTION TO MACHINE SYSTEMS – 3.0 (80 HOURS)

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.

INSTRUCTOR: Darcy Moss **PHONE:** 780.835.6765

OFFICE: FPS 119 **E-MAIL:** dmoss@nwpolytech.ca

OFFICE HOURS: 8 AM to 4:30 PM

CALENDAR DESCRIPTION: This course provides the foundation for the Heavy Equipment Service Program. The student will be introduced to the major systems found on heavy equipment, the components that comprise these systems, their functions and service techniques.

PREREQUISITE(S)/COREQUISITE: None

REQUIRED TEXT/RESOURCE MATERIALS: Supplied

DELIVERY MODE(S): In person delivery.

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

COURSE OBJECTIVES: Upon successful completion of the course the student will:

• be familiar with shop processes, procedure and nomenclature; be prepared to work safely and confidently in the heavy equipment service environment.

LEARNING OUTCOMES:

TRANSFERABILITY: None.

EVALUATIONS:

GRADING CRITERIA:

Students must complete all required courses with a grade point average of no less than 2.7 and no failing (F) grades. A passing grade in this course is a **minimum of 70%**.

			HES 121 VB	12 FINAL MA	.RK =	_ %
Alpha Grade	4-point	Percentage	Alpha	4-point	Percentage	1

Alpha Grade	4-point	Percentage	Alpha	4-point	Percentage
	Equivalent	Guidelines	Grade	Equivalent	Guidelines
A+	4.0	90-100	C+	2.3	67-69
A	4.0	85-89	С	2.0	63-66
A-	3.7	80-84	C-	1.7	60-62
B+	3.3	77-79	D+	1.3	55-59
В	3.0	73-76	D	1.0	50-54
В-	2.7	70-72	F	0.0	00-49

COURSE SCHEDULE/TENTATIVE TIMELINE:

Overview of Engines

- Fuel Types
- Configurations
- Components and Their Locations
- Cooling
- Lubrication
- Nomenclature
- Accessories
- Safety
- Servicing

Overview of Electrical

- Components and Their Locations
- Configurations
- Nomenclature
- Belts and drives
- Safety
- Servicing

Overview of Hydraulic Systems

- Components and Their Locations
- Configurations
- Nomenclature
- Safety
- Servicing

Overview of Power Train

- Components and Their Locations
- Configurations
- Nomenclature
- Safety
- Servicing

Overview of Steering

• Components and Their Locations

- Configurations
- Nomenclature
- Safety
- Servicing

Overview of Brakes

- Components and Their Locations
- Configurations
- Nomenclature
- Safety
- Servicing

Overview of Wheels, Tires and Tracks

- Components and Their Locations
- Configurations
- Nomenclature
- Safety
- Servicing

Overview of Implements

- Components and Their Locations
- Configurations
- Nomenclature
- Safety
- Servicing

STUDENT RESPONSIBILITIES: This is an adult education environment. Enrolment at Northwestern Polytechnic assumes that the student will become a responsible citizen of the College. 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.

Following the guidelines in "Student Rights and Responsibilities" in the NWP College calendar assist us all in maintaining an adult learning environment. Please refer to the Student Rights and Responsibilities policy in the Northwestern Polytechnic Calendar or at www.nwpolytech.ca/downloads/documents/StudentRightsandResponsibilities.pdf.

STATEMENT ON PLAGIARISM AND CHEATING:

Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the Northwestern Polytechnic Calendar at https://www.nwpolytech.ca/programs/calendar/ or the Student Rights and Responsibilities policy which can be found at https://www.nwpolytech.ca/about/administration/policies/index.html.

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