

## DEPARTMENT OF SCIENCE

### COURSE OUTLINE – Winter 2025

#### TT1402 (A3): Industrial Trades II – 3 (3-0-3) 90 Hours over 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.

**INSTRUCTOR:** Curran Speager  
**OFFICE:**  
**OFFICE HOURS:**

**PHONE:**  
**E-MAIL:**

**CALENDAR DESCRIPTION:** Students will learn about the importance of lubrication, operating principles of pumps and compressors, and the procedures for maintenance of bearings and related lubrication systems. The students will gain experience safely using common hand tools, mechanical fasteners, and hoisting equipment, as well as the basic principles of troubleshooting mechanical, electrical, and instrumentation systems.

**PREREQUISITE(S)/COREQUISITE:** TT1401

#### **REQUIRED TEXT/RESOURCE MATERIALS:**

The following textbook and resource materials are required for the first year of the PET program, including courses PW 1400, PW 1401, PW 1420, IT 1401, PC 1401, PW 1402, PW 1430, and IT 1402. All books are from PanGlobal.org

- 4<sup>th</sup> Class Textbook Set – Part A [Ed. 3.5]
- 4<sup>th</sup> Class Textbook Set – Part B [Ed. 3.5]
- Preparatory Math Topics for Power Engineering [Ed. 2]
- Academic Supplement [Ed. 2.0]
- 2018 ASME Academic Extract (Vol 1)



The first 4 books are available as a bundle

4<sup>th</sup> Class – Standard Collection

<https://mypower.panglobal.org/pshop/4th-class/225-4th-class-standard-collection.html>

2018 ASME Academic Extract (Vol 1)

<https://mypower.panglobal.org/pshop/code-extracts-supplement/198-2018-asme-academic-extract-vol-1.html>

**NOTE:** Older editions of Power Engineering textbooks are not acceptable. The changes between editions are enough to impact the likelihood of passing the ABSA exams.

**DELIVERY MODE(S):** Lecture style presentation of material in person at the NWP Grande Prairie campus. Laboratory provides hands-on experience and will be delivered at the Grande Prairie campus.

**LEARNING OUTCOMES:** At the end of this course students will:

- Develop an understanding of principles and methods of lubrication.
- Acquire knowledge about the care and maintenance of bearings and lubrication systems.
- Learn about the construction and operation of various types of pumps and compressors.
- Understand maintenance procedures for efficient and reliable operation of pumps and compressors.
- Gain knowledge about the safe use of common hand tools.
- Learn about mechanical fasteners and their applications.
- Acquire skills in equipment setup for hoisting and working above ground.
- Be introduced to basic principles of troubleshooting mechanical, electrical, and instrumentation systems.

**TRANSFERABILITY:** Nontransferable, there are no transfer agreements in place.

**EVALUATIONS:**

Assignments:	10%
Lab Assignments:	10%
Unit Exams:	30%
Final Exam:	50%

**GRADING CRITERIA:** Grades for this course will be assigned as a percentage. The minimum passing grade is 65%

**COURSE SCHEDULE/TENTATIVE TIMELINE:** 15 weeks. Unit exams will be held after chapters and units are completed.

**STUDENT RESPONSIBILITIES:** Students must attend a minimum of 80% of all classes and 100% of all labs to successfully complete the course.

**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.