Power Engineering –
Parent Information Package

Frequently Asked Questions

Are the Power Engineering courses approved for high school students in Saskatchewan?

The Saskatchewan Ministry of Learning has approved the four courses involved with Power Engineering (A1, A2, B1, B2) as a Locally Developed Courses of study. As such, these courses qualify as electives for high school students. Students completing the course requirements with at least a grade of 50% will receive high school credits.

The Power Engineering Course has been divided into four sections to make this course manageable for high school students:

Power Engineering A1 Units of Study	**Power Engineering A2 Units of Study**
• Applied Mathematics • Elementary Mechanics and Dynamics • Elementary Thermodynamics • Mechanical Drawing, Administration • Industrial Legislation • Workplace Hazardous Materials • Plant Safety • Plant Fire Protection	• Environment • Material and Welding • Piping and Valves • High Pressure Boiler Design • Draft, Combustion and High Pressure Boiler Parts and Fittings • High Pressure Boiler Operation • Feedwater Treatment
Power Engineering B1 Units of Study	**Power Engineering B2 Units of Study**
• Prime Movers and Engines • Pumps and Compressors • Lubrication • Electricity • Controls, Instrumentation and Computers • Heating Boilers • Heating Systems	• Heating Boiler and Heating System Controls • Auxiliary Building Systems • Vapour Compression Refrigeration • Absorption Refrigeration • Air Conditioning • Air Conditioning Systems • Boiler Maintenance • Types of Plants

Who is responsible for teaching and creating these courses?

The four Power Engineering courses have been designed by high school teachers under the guidance of an experienced Power Engineer instructor. Together, this team of professionals is responsible for creating course activities that help each student have a good understanding of all concepts related to the Power Engineering field. One instructional method included to assist students in learning the important concepts is through continual comprehensive review. This method has proven to help students better understand and remember the course information.

Will my child be able to work as a 4th Class Power Engineer after taking the courses?

These courses are designed to give students an opportunity to complete theoretical component of the 4th Class Power Engineer requirements for certification by the end of Grade 12. In order to earn full certification as a 4th Class Power Engineer in Saskatchewan, students must first write and successfully pass two exams from the Technical Safety Authority of Saskatchewan. After completing the A1 and A2 courses, students will travel to a provincial location (e.g. Saskatoon or Regina) and write the TSASK Provincial A Exam. Following completing of B1 and B2, students can write the TSASK Provincial B Exam. On both exams, 65% is the passing grade.

Following the provincial exams, students must participate in the hands-on component, commonly known as "steam time." Once students successfully pass the two provincial exams and earn 160 hours of steam time, they are qualified to work as a 4th Class Power Engineer.

John Paul II is working with industry partners to provide steam time for students who are 18 years of age or older. This means that high school students will be able to complete their steam time after Grade 12.

What is the workload like for this course?

Each of the Power Engineering courses (A1, A2, B1, B2) have been designed to be completed in **100 instructional hours** as per the Saskatchewan Ministry of Learning regulations. The Power Engineering course has traditionally been offered as a post-secondary course through various regional colleges, or through SIAST, SAIT, and NAIT which is compressed into approximately 8 months.

Students should recognize that there is likely to be a heavier workload than a regular high school course. It is important that students who enroll in Power Engineering have a **unique set of skills**. Students must be committed to the course and possess a strong work ethic; they must have highly developed time management skills, and must be prepared to work and communicate in an online environment. To assist students with time management, submitting assignments, and communicating with instructors, help is available.

While the workload will not be unmanageable, students and parents interested in this course need to be aware of the additional time expectations. In order to assist students in completing

the course in time to write the provincial TSASK exam, there will be less flexibility in assignment deadlines. This is different than the traditional high school environment but is included to ensure course completion in a timely manner.

What if my child is in Grade 12 when they want to begin?

Grade 12 students are welcome to enroll in this course. Once your child graduates, he or she may continue studying in the program at no additional cost to you. Although the full course (A1, A2, B1, B2) is currently under development, John Paul II is working with Sun West School Division, to provide your child uninterrupted access to teacher support and the online resources.

What if my child does not complete the course in the required time?

As your child falls behind, a plan should be put in place to get your child back on track between their school supports (supporting EA or teacher, and Administrator). If your child still does not catch up and does not complete the course by the end of the semester, it will be up to the Administrator as to whether the child will continue in the program.

If the decision is made that your child continue with the program, he or she will roll over into the next school semester and continue to work to complete the course. Your child will need to complete the TSASK exam on a new writing date (as to be discussed with the instructors of the program).

What happens if my child does not pass the provincial exam?

In order to gain **high school credits** for these courses, students are not required to pass the provincial exams. However, if a student wishes to earn their **provincial qualifications**, the student must acquire at least 65% in order to pass.

The TSASK exam requires the student to **pay a $108 fee** each time an exam is written. This fee will not be covered by the school and must be covered by the student. Students who do not pass the TSASK exam **may rewrite** the exam at a later date. The student must wait at least 30 days before they rewrite and must pay the fee again.

However, John Paul II recognizes that these are **rigorous** courses that reflect post-secondary expectations and as such, some high school students may not be successful in passing the TSASK exam. However, it is our belief that every student who is interested in pursuing a career in the Power Engineering will **benefit from the background knowledge** and understandings that are taught in this course.

What is the cost for each online course?

Students will be required to pay a $500 registration fee for each course. Upon successful completion of the course the $500 will be refunded.

How can I help my child with this course?

Parents play an important role in supporting their student through any online courses and Power Engineering is no exception. Assisting your child in staying on track with the timeline and communicating regularly with the online instructors are two essential ingredients for any successful distance learning experience and are of particular importance for the Power Engineering course. We would encourage parents to look through the online course and if interested, request access to the course from the instructors. We use Moodle as our online platform which requires an email address to create an account.

If you or your child ever experiences any difficulty or have questions, please do not hesitate to contact the course instructors. Their contact information will be sent to you in an introductory email and will be available on the course page.

What materials will my child need to complete this course?

Sun West School Division has partnered with Pan Global Training Systems, a leader of resources in the Power Engineering Industry. Enrollment in the course will provide students access to the Pan Global e-book as well as the print text. http://www.powerengineering.org/

Students will be given a username and password in order to access the online textbook. The e-book can be viewed on various portable devices such as laptops, iPads, tablets, smartphones and so forth.

Which students can apply for enrollment in these courses?

Any high school students who are interested in a career in Power Engineering should consider enrolling in these courses. While ideally set up for students to begin in Grade 11 and complete by the end of Grade 12, students in their final year of high school are also encouraged to enroll in the courses as high school electives. Students who plan to attend a post-secondary institution to complete their certification will undoubtedly **benefit from the background knowledge** and understandings that are taught in this course.

How will students access the steam time portion of this course?

John Paul II is currently working on establishing partnerships with Saskatchewan Polytechnic (formerly SIAST) to facilitate the steam time requirement in the program. We are also exploring other potential sites in Meadow Lake, Yorkton, Regina and Lloydminster. Students may also be able to complete their steam time with an industry placement for the required hours.

How can I register my child for this course?

Please submit your completed registration form to John Paul II.