

WORKPLACE MENTOR INFORMATION

Mentor Expectations and Student Skills

What is PTEC?

Pembina Trails Early College is an exciting four-year High School that prepares students for careers in the information technology (IT) industry. It brings together the best elements of high school, college and industry and prepares students for college, university or a career. In grade 9 and 10, PTEC students concentrate their education on an accelerated technology program. In grade 11 and 12, their studies continue at Manitoba Institute of Trades and Technology (MITT) in one of two post-secondary streams: Cyber Defense and Cloud Administration or Software Development.

How does the PTEC Mentorship Program Work?

The grade 10 program involves an intensive one week (morning only) small group (2-5 students) mentoring internship in IT workplaces. The intent of this program is to give the students an opportunity to experience a workplace mentor or team of mentors in action on a project or in their daily work. The goal is for the students to participate as much as possible in the work day by contributing to discussions or completing tasks.

What is expected of the Mentors?

- Provide meaningful work experiences that enable students to showcase their skills or learn new ones (not simple clerical tasks such as copying, etc.). Possible participation may include:
 - Job shadowing
 - Observing meetings and “think tanks”
 - Giving the students a “mock project” (a past project or made up scenario)
 - touring and observing different areas of the company (not only IT areas)
 - aiding in current projects if they have the necessary skills
- Provide supervision and mentorship for students
- Provide feedback to Workplace Learning Coordinator
- **You are NOT expected to provide a computer. The students will have their Microsoft Surface but if they require any software or programs please inform the Workplace Learning Coordinator in advance of the placement. The students do not have administrative privileges on the school laptops so we will need to do this at the school.**

What certification and social skills can I expect the mentees to have?

- Young Workers Readiness Certificate
- LIFT Certificate for ethical decision making in business
- Problem solving
- Teamwork/collaboration
- Critical thinking

What technology skills can I expect the mentees to have?

All students will know:

- Introductory programming skills, such as proficiency with data types, control structures (conditionals and loops), arrays, methods, objects and classes
- Responsive web development using HTML, CSS, SASS, and basic client-side scripting using JavaScript
- Computer hardware/software, including understanding the functions of PC/Laptop/Printer components, preventive maintenance and troubleshooting, BIOS/UEFI, virtualization and hypervisors, operating systems, and Windows configuration
- Principles of networking, such as physical and logical topologies, TCP/IP and OSI Model, configuring devices for communication on basic networks, IPv4 vs. IPv6 addressing, configuring wireless routers, understanding of network threats, how to protect against network threats, firewalls
- Principles of cybersecurity, such as cybersecurity domains, threat arenas, how cyber threats spread, the cybersecurity cube, states of data, cybersecurity countermeasures, and types of cybersecurity threats, vulnerabilities, and attacks.

Some students have researched on their own:

- 3D Modelling with Blender and AutoDesk Fusion 360
- Unity Game Development
- Arduino Coding
- 2D Animation with a variety of programs
- Video Editing
- Microsoft VBScripting
- VR Development
- Lua Programming Language
- Python Programming Language
- Bash Shell Scripting
- R Programming Language
- Basic Cryptography
- Introductory Open World Design

More Questions? Please contact:

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