

Item 1: Generative AI Prompt Engineering for STEM Educators

- **Website / Provider:** International Society for Technology in Education (ISTE) / Online Self-Paced
- **Detailed Description:** I will complete a specialized micro-credential course focusing on prompt engineering specifically for secondary math and science teachers. This training teaches how to leverage large language models (LLMs) to design customized, scaffolded physics word problems, generate automated coding hints for computer science units, and create differentiated reading materials for complex scientific articles based on varying student Lexile levels.
- **Reflection & Meaning to Continued Development:** Artificial intelligence is transforming the educational landscape. Mastering prompt engineering allows me to move beyond basic administrative use and actively enhance my pedagogical design. By learning to generate high-quality, targeted STEM resources in seconds, I can quickly differentiate my instruction to meet the diverse learning needs in my classroom while freeing up more time for direct student mentorship.

Item 2: Wilderness First Aid (WFA) Certification

- **Website / Provider:** Sirius Wilderness Medicine / Local BC Interior Branch
- **Detailed Description:** I will complete a 20-hour Wilderness First Aid course. This practical, hands-on training focuses on remote injury management, patient assessment, hypothermia prevention, and emergency evacuation protocols specifically designed for outdoor and field-study environments where standard medical care is more than an hour away.
- **Reflection & Meaning to Continued Development:** As a STEM teacher with a strong background in Natural Resources and Forestry, my goal is to frequently take students out of the traditional classroom for field-based ecological studies. Holding a WFA certification is vital for ensuring student safety during outdoor water testing, forestry plot measurements, or local ecosystem surveys. This specialized training gives me the operational confidence and school district approval needed to lead safe, immersive, land-based science experiences.

Item 3: BC Green Games and Place-Based Climate Inquiry

- **Website / Provider:** Science World BC / BC Green Games Mentorship Portal
- **Detailed Description:** I will participate in the professional learning network for the BC Green Games. This initiative guides teachers on how to facilitate student-led environmental inquiry projects. The training covers project-based learning (PBL) frameworks, action-oriented sustainability documentation, and methods for guiding secondary students to analyze local community ecological footprints.
- **Reflection & Meaning to Continued Development:** This activity bridges environmental science with active citizenship. Instead of teaching ecology abstractly, this training empowers me to turn my Science 10 classroom into an environmental innovation hub. Guiding students through a real-world, competitive

sustainability project boosts their engagement, fosters teamwork, and connects classroom science directly to local environmental stewardship in the Thompson-Nicola region.

Item 4: Crimson Makey Makey & Arduino STEM Integration Certification

- **Website / Provider:** JoyLabz Academy & Arduino Education Online
- **Detailed Description:** I will complete the advanced educator training for integrating physical computing hardware—specifically Makey Makey boards and Arduino microcontrollers—into secondary science and math classes. This technical workshop teaches how to guide students to build their own circuit boards, program simple environmental sensors, and map physical inputs into digital math models.
- **Reflection & Meaning to Continued Development:** This training directly supports my commitment to hands-on, game-based learning. By integrating physical computing into my physics and math units, I can transform abstract concepts like electrical circuits or algebraic functions into physical, interactive prototypes. This approach makes learning tangible, lowers barriers for non-traditional learners, and fosters a vibrant "maker culture" in my classroom.

Item 5: Vancouver Aquarium & Ocean Wise Secondary Educator Cohort

- **Website / Provider:** Ocean Wise Education / Digital and Field Delivery
- **Detailed Description:** I will join the secondary educator cohort provided by Ocean Wise, focusing on aquatic ecosystems and marine biology resources tailored for BC Interior schools. The workshop focuses on utilizing virtual reality (VR) ocean kits, microplastic filtration lab protocols, and utilizing real-time global oceanographic data within high school science data-analysis units.
- **Reflection & Meaning to Continued Development:** Even in the interior of BC, watershed literacy is a crucial component of our local ecosystem health. This training provides me with high-quality, peer-reviewed lab protocols regarding ocean chemistry and human impacts. Incorporating their real-world data tracking into my math and science courses helps students develop genuine data literacy by working with actual, uncleaned scientific data sets.

Item 6: Perimeter Institute: Quantum Physics and Modern Science in the Classroom

- **Website / Provider:** Perimeter Institute for Theoretical Physics
- **Detailed Description:** I plan to complete the educational modules provided by the Perimeter Institute designed to introduce modern physics into secondary classrooms. This training provides pedagogical breakdowns for translating complex topics—such as quantum mechanics, dark matter, and special relativity—into accessible, hands-on models and conceptual math activities for Physics 11 and 12.
- **Reflection & Meaning to Continued Development:** High school physics curricula can occasionally feel antiquated to students living in a world of quantum

computing and space exploration. This specialized professional development allows me to confidently introduce cutting-edge modern science into my classroom. It equips me with the conceptual frameworks needed to spark deep scientific curiosity and inspire students to pursue advanced STEM careers.

Item 7: Restorative Practices and Conflict Resolution in Secondary Schools

- **Website / Provider:** International Institute for Restorative Practices (IIRP) / Canada
- **Detailed Description:** I will complete a professional development course on utilizing Restorative Practices in secondary classrooms. This training focuses on the proactive establishment of talking circles, implementing affective communication phrases, and conducting restorative conferences to resolve peer-to-peer conflicts and classroom disruptions constructively.
- **Reflection & Meaning to Continued Development:** Effective classroom management requires moving beyond punitive discipline toward community accountability. In collaborative STEM environments where students work closely in random groups, relational tension can arise. Learning restorative frameworks helps me build a classroom culture rooted in mutual respect, emotional safety, and open communication, which directly minimizes behavioral disruptions and maximizes collaborative learning time.

Item 8: BC Hydro Energy Awesomeness: Secondary Energy & Conservation Systems

- **Website / Provider:** BC Hydro Power Smart for Schools
- **Detailed Description:** I will complete the secondary educator workshops provided by BC Hydro. This program focuses on teaching energy conservation, electrical grid systems, and renewable energy technologies specific to British Columbia (such as hydroelectric dams and run-of-river systems), providing ready-to-use computational and simulation models.
- **Reflection & Meaning to Continued Development:** As a STEM educator in BC, teaching electrical principles through the lens of our provincial energy infrastructure makes learning highly relevant. This workshop provides me with localized math and physics modeling tasks regarding energy efficiency. It allows me to bridge the curriculum requirements of electricity and energy transformation with regional industrial realities and conversations about sustainable engineering.

Item 9: Desmos Classroom Certified Facilitator Pathway

- **Website / Provider:** Desmos Amplified / Teacher Learning Center
- **Detailed Description:** I will complete the advanced educator training modules for Desmos Classroom. This training goes far beyond using Desmos as a simple graphing calculator; it focuses on creating custom, interactive digital math activities, building computational layers (CL) to provide students with instant,

automated feedback, and using the teacher dashboard to actively monitor and anonymize collective student thinking during synchronous problem-solving.

- **Reflection & Meaning to Continued Development:** Desmos is an incredibly powerful tool for visualizing mathematical concepts. Becoming an expert in this platform allows me to design high-engagement, gamified math activities that allow students to explore mathematical relationships dynamically. It shifts mathematics from a static, textbook-based experience into a fluid, exploratory environment where students can literally see how altering an equation transforms a graph in real-time.

Item 10: ESRI ArcGIS for Schools: Spatial Data Analytics in STEM

- **Website / Provider:** ESRI Canada Education Program
- **Detailed Description:** I will complete the professional learning pathway for utilizing ArcGIS (Geographic Information Systems) mapping software in secondary classrooms. This course covers how to teach students to collect field data using mobile apps, upload it to a cloud-based spatial platform, and use digital mapping tools to analyze environmental, forestry, and demographic trends.
- **Reflection & Meaning to Continued Development:** Spatial data analysis is a major industry standard in modern forestry, natural resources, and environmental engineering. By bringing ArcGIS into my secondary science and mathematics classrooms, I provide students with highly marketable, real-world technical skills. This training allows me to create truly interdisciplinary units where students use mathematical statistical analysis to solve actual, geographic and environmental problems occurring right in British Columbia.