



## Notice of Intent for New Degree/Diploma Programs

The Notice of Intent (NOI) is completed after Program Ideation once it is determined that a New Program is appropriate. The NOI provides additional detail regarding the nature and aspirations of a proposed program. Please submit the completed NOI to [cige@ontariotechu.ca](mailto:cige@ontariotechu.ca). The NOI will be presented to the Academic Resource Committee for evaluation and recommendation to the Provost.

### **Applicant Information**

Faculty: [Faculty of Engineering and Applied Science](#)

Faculty Lead: [Dr. Akramul Azim](#)

Program Level: ☒ Graduate ☐ Undergraduate

Program Name and Degree Designation: [Graduate Diploma \(G.Dip\) in Smart Grid Engineering](#)

Is this program in collaboration with another faculty? No

If yes, which Faculty? N/A

Modality: ☐ Online ☒ Hybrid

Will this program have an experiential learning component? ☒ Yes ☐ No

If yes, please provide details of experiential learning, including potential partners and any anticipated impact on existing resources or placements in other programs.

[The Smart Grid Engineering Graduate Diploma is a project-based coursework focused on Smart Grid systems. Students will apply Smart Grid tools and technologies on different engineering use cases.](#)

[Assignments and projects are embedded within existing graduate courses and do not require additional facilities beyond those already available in the Faculty of Engineering and Applied Science. This approach builds both technical and professional competencies in smart grid design and development, aligning with Ontario Tech's emphasis on advanced engineering.](#)

### **Overview of Proposed Program**

*Please briefly describe the proposed program.*

[The Smart Grid Engineering Graduate Diploma incorporates extensive experiential learning through practical, project-driven coursework centered on the development of Smart Grid systems. Throughout the program, students engage directly with contemporary Smart Grid engineering tools, platforms, and methodologies as they work on a range of use cases.](#)

[All assignments and projects are integrated into the existing suite of graduate courses, leveraging current infrastructure and resources within the Faculty of Engineering and Applied Science. No additional facilities are required, ensuring a streamlined and sustainable delivery model.](#)

[This learning structure not only strengthens students' technical proficiency in designing, implementing, and evaluating Smart Grid systems, but also enhances their professional skills in collaborative problem-solving, project management, and responsible technology development. The diploma aligns closely with Ontario Tech University's strategic focus on energy systems, preparing graduates to contribute effectively to emerging energy industries and research initiatives.](#)

[Students complete four\(4\) graduate-level courses \(12 credits total\) from the list below, providing both](#)

theoretical understanding and practical training in Smart Grid-based engineering:

- ENGR5960G Power Sys. Oper., Anal & Plan.
- ENGR5970G Advanced Power Electronics
- ENGR5975G Elect. Power Distribution Syst
- ENGR5965G Digital Devices and Techniques for Smart Grid Automation and Protection
- Optional Replacement:
  - Related ENGR 5005G – Special Topics and/or Senior Undergraduate course (upon approval by the Graduate Program Director and relevant to the scope)

**The diploma can be completed on a part-time or full-time basis and is fully stackable into the MASc or MEng in ECE programs. It provides a flexible pathway for professionals seeking to upskill in energy or power Engineering or transition into leadership roles in industry settings.**

Describe how the principles of Equity, Diversity, Inclusion, and Decolonization have been considered.

The Smart Grid Engineering Graduate Diploma integrates equity, diversity, inclusion, and decolonization principles by promoting equitable access through hybrid delivery and flexible scheduling. The program encourages participation from women, Indigenous peoples, and other underrepresented groups in engineering through targeted outreach and mentorship opportunities. Its curriculum highlights global perspectives in power Engineering and design, emphasizing inclusive innovation and workforce transformation. Course projects and case studies reinforce responsible engineering practices and the social dimensions of power systems, ensuring students appreciate the human and ethical aspects of technological change.

If this program contains any indigenous content, please provide information regarding consultation with the Indigenous Education Advisory Circle (IEAC).

The program currently does not include specific Indigenous content. However, future iterations may incorporate case studies on inclusive energy-efficient design, and technology development in partnership with Indigenous communities. Any inclusion of Indigenous content will be preceded by consultation with the Indigenous Education Advisory Circle (IEAC) to ensure cultural accuracy and alignment with Ontario Tech's protocols.

*For more information on how Indigenous content is defined at Ontario Tech University and how to consult with the Indigenous Education Advisory Circle (IEAC), please refer to the [Protocol for Consultation with the Indigenous Education Advisory Circle](#).*

## **Evidence of Need**

List all other Ontario universities that offer similar programs.

Graduate Programs (Master's / Diplomas) Related to Smart Grid in Ontario:

University	Program
Toronto Metropolitan University (TMU)	Professional Master's Diploma in Energy & Innovation (this is a graduate-level diploma that explicitly includes smart grid concepts.
University of Toronto	MEng in Electrical & Computer Engineering
University of Western	Graduate Program in Electrical & Computer Engineering (Power Systems)
University of Waterloo	Power & Energy Systems (MASc, MEng, Online MEng)

What is the intended applicant pool for this program and the projected enrollment?

The program is intended for engineers and technical professionals in electrical, computer and software engineering who require up-skilling in smart grid design and development. It also targets recent graduates wishing a short, stackable credential that can ladder into the MEng or MASc in ECE. The anticipated Year 1

intake is approximately 10–15 students, with a steady-state enrolment of around 20–25 students per year (mix of part-time professionals and full-time students).

What are the trends indicating societal need for graduates in this area. Please visit [Ontario Job Futures](#), the [Government of Canada Labour Market Trends](#) website, and the [Durham Workforce Authority](#) and Include projections for jobs in this area over the next 5 to 10 years. You may also include data from other sources, if relevant.

Ontario labour-market data point to a growing need for graduates in smart-grid engineering as the province modernizes its electrical infrastructure and responds to rising electricity demand. Government of Canada labour tools show positive near-term prospects for power-system and electrical-engineering occupations, while national projections estimate nearly 15,000 openings over the next decade suggesting several thousand opportunities in Ontario when scaled proportionally. Regional insights from the Durham Workforce Authority further highlight shortages in energy, digital infrastructure, and technical engineering skills. Together, these trends indicate strong and sustained demand over the next 5–10 years for engineers with expertise in power systems, grid modernization, protection and control, renewable integration, and energy-storage technologies.

### **Resources**

What human and physical resources will be required to launch and sustain the program?

How will existing programs be impacted?

What is the marketing pitch for this program and what outlets should be used?

The Smart Grid Engineering Graduate Diploma will be delivered by existing faculty in Electrical, Computer and Software Engineering. No new hires or additional resources are required. The program will utilize existing classrooms, laboratories, and computational facilities already supporting graduate teaching and research.

The impact on existing programs will be minimal, as the courses are part of the current graduate curriculum. The diploma consolidates these offerings into a focused, stackable credential that strengthens Ontario Tech's leadership in Smart Grid Engineering. Marketing will target engineers and professionals through the university website, professional networks, and industry partnerships.

### **Consultation**

Provide details regarding consultations with other programs and/or Faculties at Ontario Tech University, external agencies/partners, and supporting departments (e.g. the Office of the Registrar, School of Graduate and Post-Doctoral Studies), and include information about potential collaboration or possible duplication. Include an explanation of the consultation process and a summary of the feedback provided. Preliminary consultations were held within the Faculty of Engineering and Applied Science, including discussions with the Graduate Program Director, department faculty, and the Dean's Office. Input from the School of Graduate and Postdoctoral Studies (SGPS) will ensure alignment with Ontario Tech's graduate credential framework and stackable program structure.

Feedback confirmed that the proposed diploma complements existing MASc and MEng offerings without duplication and supports the university's strategic focus on energy systems. The program also aligns with ongoing collaborations and industry engagement in Smart Grid-based projects.

Has this NOI been approved by the Faculty Dean(s)? ☒ Yes ☐ No

Date Approved: December 1, 2025