

**CARLETON UNIVERSITY COMMITTEE ON
QUALITY ASSURANCE
Cyclical Review of the undergraduate program
In Engineering Physics
Executive Summary and Final Assessment Report**

This Executive Summary and Final Assessment Report of the cyclical review of Carleton's undergraduate program in Engineering Physics are provided pursuant to the provincial Quality Assurance Framework and Carleton's Institutional Quality Assurance Process (IQAP).

EXECUTIVE SUMMARY

The undergraduate program in Engineering Physics resides in the Department of Electronics, a unit administered by the Faculty of Engineering.

As a consequence of the review, the programs were categorized by Carleton University's Senate Quality Assurance and Planning Committee (SQAPC) as being of good quality. (Carleton's IQAP 7.2.13-7.2.14).

The External Reviewers' report offered a very positive assessment of the programs. Within the context of this positive assessment, the report nonetheless made a number of recommendations for the continuing enhancement of the programs. These recommendations were productively addressed by the Chair of the Department of Electronics and the Dean of the Faculty of Engineering and Design in response to the External Reviewers' report and Implementation Plan that was submitted to SQAPC on May 11, 2023.

UNIT RESPONSE AND IMPLEMENTATION PLAN

Programs Being Reviewed: Engineering Physics

Prepared by (name/position/unit): Niall Tait, Chair, Department of Electronics

External Reviewer Recommendation & Categorization	Unit Response (choose only one for each recommendation): 1- Agreed to unconditionally 2- Agreed to if additional resources permit (describe resources) 3- Agreed to in principle 4- Not agreed to Rationales are required for categories 2, 3 & 4	Action Item	Owner	Timeline	Will the action described require calendar changes? (Y or N)
1. Implement broad-based admissions process to increase diversity of incoming student population. (Opportunity)	<i>Agreed to in principle</i> <i>Undergraduate admissions are managed by the Registrar's office.</i>	<i>Contact the RO to explore the process and feasibility of expanded admission requirements incorporating CV or other information.</i>	<i>Niall Tait, Dept. Chair and Tom Smy, program coordinator</i>	<i>Fall 2022</i>	<i>No</i>
2. Restore an introductory Engineering Physics course back to Level 1, to establish cohesion and community for the students in the program. (Concern)	<i>Not agreed</i> <i>A common first year for all Engineering students was established by the Associate Dean's office in fall 2019 and this change would mitigate benefits gained.</i> <i>First year seminar (ECOR 1055) might serve a similar purpose</i>	<i>Review ECOR 1055 delivery for Engineering Physics section and update as appropriate.</i>	<i>Niall Tait, Dept. Chair and Tom Smy, program coordinator</i>	<i>ECOR 1055 fall 2023</i>	<i>No</i>
3. Streamline and simplify process for transfer from other Engineering programs into Engineering Physics after Level 1. (Opportunity)	<i>Not agreed</i> <i>There is a process in place which is simplified by the common first-year program (see recommendation 2).</i>	<i>Improve documentation of the process for transfer into EP.</i>	<i>Niall Tait, Dept. Chair and Tom Smy, program coordinator.</i>	<i>Fall 2022</i>	<i>No</i>
4. Explore possibilities to add more electives to Engineering Physics program, within the current unit count, providing more flexibility to students. (Opportunity)	<i>Agreed to in principle</i>	<i>Review program requirements to identify required courses that could be removed. Program content is constrained by CEAB accreditation requirements.</i>	<i>Department curriculum committee</i>	<i>Fall 2023 calendar change submission (for fall 2024 calendar)</i>	<i>Yes, possibly</i>

<p>5. Employ more proactive enrolment management methods to improve overall retention and reduce fluctuations in student numbers. (Concern)</p>	<p><i>Agreed to in principle</i></p>	<p><i>A first step may be to try and increase engagement with the group through an EP-specific town-hall meeting. The unit will engage with TLS to explore pedagogical possibilities for improving student retention and graduation</i></p>	<p><i>Niall Tait, Dept. Chair and Tom Smy, program coordinator</i></p>	<p><i>Winter 2023</i></p>	<p><i>No</i></p>
<p>6. Explore opportunities to mitigate disruption to student programs upon return from co-op, course failures, pandemic disruption, by communicating registration pathways and duplicate offerings of a few key courses. Overall, this would reduce time to completion. (Concern)</p>	<p><i>Agreed to in principle</i></p>	<p><i>It is not possible to support every off-pattern pathway. Key courses in 1st and 2nd year are offered multiple times each year, including summer session, to support off-pattern students. Key 3rd year courses are offered multiple times each year to support co-op students. We can consult with TLS on how to foster the successful return of coop students into courses</i></p>	<p><i>Barry Syrett, Assoc. Chair UG.</i></p>	<p><i>Fall 2022</i></p>	<p><i>No</i></p>
<p>7. Provide clear information about program structure and requirements on the Department website (Opportunity)</p>	<p><i>Agreed to unconditionally</i></p>	<p><i>Students should be aware that program requirements are provided in the calendar and planning support is provided through Engineering Undergraduate Academic Support Office. This can be linked through the Department web page.</i></p>	<p><i>Niall Tait, Dept. Chair</i></p>	<p><i>Fall 2022</i></p>	<p><i>No</i></p>
<p>8. Provide support to the students to re-establish an Engineering Physics Society and seek input from them on program improvements. (Opportunity)</p>	<p><i>Agreed to in principle</i></p>	<p><i>EP students can be encouraged to resurrect their society but the action is primarily up to the students. Carleton and FED have extensive support for student run clubs and extracurricular activities.</i></p>	<p><i>Niall Tait, Dept. Chair</i></p>	<p><i>Fall 2022</i></p>	<p><i>No</i></p>
<p>9. Plan a few key informational activities for the students, such as option selection and career/graduate school opportunities. (Opportunity)</p>	<p><i>Agreed to unconditionally</i></p>	<p><i>Offer information sessions specifically for the EP class. Information sessions are offered several times during the academic year for the general population of Department of Electronics students.</i></p>	<p><i>Tom Smy, program coordinator</i></p>	<p><i>Winter 2023</i></p>	<p><i>No</i></p>

<p>10. Provide more venues for connection between students and faculty through informational activities and/or research opportunities (Opportunity)</p>	<p><i>Agreed to unconditionally</i></p>	<p><i>Target promotion of research opportunities to EP class. There are already general announcements for summer and ongoing research opportunities such as USRA, Student as Partners Program, and iCureus.</i></p>	<p><i>Niall Tait, Dept. Chair</i></p>	<p><i>Winter 2023</i></p>	<p><i>No</i></p>
<p>11. Allocate some resources to long term planning for the evolution of the Engineering Physics program, by the leadership team championing the program. (Opportunity)</p>	<p><i>Agreed to unconditionally</i></p>	<p><i>Establish EP curriculum sub-committee to review curriculum development.</i></p>	<p><i>Dept. Curriculum Committee</i></p>	<p><i>Fall 2022</i></p>	<p><i>No</i></p>
<p>12. Strengthen the faculty connection to the Engineering Physics program both in electronics and physics. In Electronics, a clear backup person to the current leader is needed (Opportunity).</p>	<p><i>Agreed to unconditionally</i></p>	<p><i>Establish EP curriculum sub-committee to engage faculty with program content. Prof. Steven McGarry is very familiar with this program and acts as a backup to Prof. Tom Smy. There are several additional faculty members at various career stages who are engaged with the program.</i></p>	<p><i>Dept. Curriculum Committee</i></p>	<p><i>Fall 2022</i></p>	<p><i>No</i></p>
<p>13. Physics needs a better connection to the Engineering physics students, in addition to just the classes. Participation in the 4th year Eng Physics lab cooperatively with Electronics faculty is one possibility. Ideally get a Physics faculty member to get a P.Eng status to help with CEAB metrics. (Opportunity)</p>	<p><i>Agreed to in principle</i></p>	<p><i>Encourage project co-supervision (with P.Eng.) by Physics faculty. As mentioned in the report, there is little incentive for Physics faculty to go through the licensing process.</i></p>	<p><i>Tom Smy, program coordinator</i></p>	<p><i>Fall 2023 projects</i></p>	<p><i>No</i></p>