Quality Assurance Cyclical Undergraduate Program Review – Executive Summary and Implementation Plan

Department of Civil Engineering
Faculty of Engineering
March 2025

Programs Reviewed

Engineering Technology Diploma (Civil Engineering)
Bachelor of Engineering (Civil Engineering)
Bachelor of Engineering (Civil Engineering) – Co-operative Education/Internship option

Executive Summary

In accordance with the Lakehead University Institutional Quality Assurance Process (IQAP) and the Ontario Quality Assurance Framework (QAF), the Department of Civil Engineering submitted a self-study (September 2017). Volume I presented the undergraduate program descriptions and outcomes, an analytical assessment of the programs, and program information along with institutional information and statistical data. Volume II provided course syllabi. Volume III provided the CVs for core faculty contributing to the delivery of the programs.

The Review Team for this cyclical program review included two external reviewers and one internal reviewer selected by the Senate Academic Quality Assurance Sub-Committee (SAC-QA) from a set of proposed reviewers. The reviewers examined materials and completed a two-day site visit on October 22-24, 2017. The site visit included meetings with the Provost and Vice-President (Academic), Deputy Provost, Dean of Engineering, the Chair of the Department, full-time, tenure-track faculty members, the technical staff, a group of undergraduate students, the Associate Vice-President, Research & Graduate Studies, the University Librarian and Liaison Librarian, and a group of alumni and community partners. The Review Team observed and/or toured laboratory facilities on the Thunder Bay campus, the Chancellor Paterson Library including the Teaching Commons and Northern Studies Research Centre (fifth floor).

In their report (February 2018), the Review Team provided feedback that describes how the programs delivered by the Department of Civil Engineering meet the Quality Assurance Framework evaluation criteria and align with the University mission, strategic plan and academic plan. The Review Team noted that the programs are of high quality

and offer students a regionally connected and learner-centred experience supported by the full-time faculty members and highly qualified technologists.

At the undergraduate level, students must meet the standard University admission policies which are appropriate for the Program Learning Outcomes. Curriculum structure and delivery, and teaching and assessment methods are appropriate, are aligned with comparable programs across Canada at the undergraduate level, reflect the current state of the discipline, and are effective in preparing graduates to meet defined program outcomes and the University's Undergraduate Degree Level Expectations.

The Review Team noted several strengths of the Civil Engineering programs and summarized them as follows:

- The Department is delivering a high quality educational experience in Civil Engineering.
- The faculty members are motivated to enhance the students' experience, the enthusiasm level is also high.
- The popularity of the post-diploma degree program is encouraging and provides college graduates an excellent pathway to the engineering profession.
- The Department gained an excellent reputation among college graduates across Canada. Some of the students met during the site-visit came from as far away as Vancouver area to pursue a Civil Engineering program at Lakehead.
- The governance of the academic affairs is also a strong key strength.
- The Department has established a process to monitor students' academic performances.

Responses to the Review Team were received from the Chair of the Department (September 2018), and the Dean of the Faculty of Engineering (June 2020).

A Final Assessment Report (FAR) has been prepared to provide a synthesis of the external evaluation and internal response to the recommendations. This report identifies the significant strengths of the program, the opportunities for program improvement and enhancement, and sets out and prioritizes the recommendations that have been selected for implementation.

Implementation Plan

The Implementation Plan included below identifies the academic unit's plans to action the recommendations, those responsible for ensuring their implementation and the timelines.

Implementation Plan

Recommendation	Proposed Follow-up	Responsibility*	Timeline
diversify the assessment tools	added students' performance in laboratory reports, course projects and midterm examinations for the assessment	Program Chairs	Initial Actions 2018-2019, Follow-up Ongoing
develop a standard reporting process to monitor the implementation of the improvement strategies	Department has a standing Curriculum and Assessment Committee convened by the Chair. The Committee should meet regularly to review and assess curriculum and plans and to monitor and document progress toward successful achievement of their goals.	Program Chairs	Initial Actions 2018-2019, Follow-up Ongoing
consider reducing the number of courses to bring the students' course load close to the average of similar programs offered in Ontario institutions	reduced year 2 courses from 14 to 12 *by combing the two soil courses in one new soil course and combing two courses in steel design and reinforced concrete design in a new steel and reinforced concrete design course*	Program Chairs	Initial Actions 2018-2019, Follow-up Ongoing
introduce technical elective courses to cover new challenges in civil engineering practices including climate changes effects and sustainability of infrastructures	*seek to create a final year engineering elective course in climate change and infrastructure sustainability based on the expertise of the new faculty members*	Program Chairs, Dean	2018-2019
re-examine the curriculum scheduling and remove conflicting pre-requisite requirements	*approved MATH 4030 Probability and Statistics as pre-requisite or co-requisite for ECIV 3738 Hydrology. This is implemented for 2018/2019 academic year. Also, ECIV 1230 Statics will be assigned as pre-requisite for ECIV 1630 Theory of Structures.*	Program Chairs	Initial Actions 2018-2019, Follow-up

			Ongoing
work with the Faculty of Engineering to provide undergraduate students with study space and provide WIFI access to them	*expanding the WIFI converge across the campus*	Program Chairs, Dean	2018-2020
reinforce the stakeholders' involvement in the review of the curriculum. Feedback from students, alumni and employers is necessary for the revision process	*seek feedback from alumni and employers during the course revision process*	Program Chairs, Dean	Initial Actions 2018-2019, Follow-up Ongoing
seek other sources of funds to support its activities (i.e. industry, alumni support …)	*active with research grants from the government or the industry*	Program Chairs, Dean	ongoing
review technical staffing needs	*periodically meet with the technical staff to review and discuss their needs*	Program Chairs, Dean	ongoing
initiate teaching assistantship program to improve the undergraduate students' learning experience	*graduate students will help undergraduate students during the tutorial sessions along with dedicated office hours for help to complete course projects and reports*	Program Chairs, Dean	2018-present

Implementation Plan (Part B): Decanal & Administration Responsibilities

Recommendation	Proposed Follow-up	Responsibility*	Timeline
Involve the undergraduate program committee in the review of applications for the post-diploma stream as the process is based on case-by-case and puts an	The Faculty has recently requested an Undergraduate Program Support Officer position to assist the chairs with routine tasks. Nevertheless, all engineering departments within the Faculty are supported by the Faculty of Engineering Academic Manager (Mrs. Moynihan) and the Administrative Officer (Dr. Landry). They are tasked with	Dean	2019-2020

onerous workload on the Chair	leading and coordinating admissions of post diploma students, student recruitment and retention activities, community outreach and promotion of engineering.		
form an Industry Advisory Committee to seek input for the improvement of the civil program	*Faculty of Engineering advisory committee with civil engineers as members*	Dean	Initial Actions 2018-2019, Follow-up Ongoing

*The Dean of the Faculty, in consultation with the Department Chair shall be responsible for monitoring the Implementation Plan. The details of progress made will be presented in the Deans' Annual Reports and filed in the Office

of the Provost and Vice-President (Academic).