

EXECUTIVE SUMMARY & IMPLEMENTATION PLAN

Under Nipissing University's Institutional Quality Assurance Process (IQAP) and the Ontario Universities Quality Assurance Framework (QAF), all programs are subject to a comprehensive review at least/at minimum every eight years to ensure that they continue to meet provincial quality assurance requirements and to support their ongoing rigour and coherence. This review was conducted under the terms and conditions of the IQAP approved by Senate on June 29, 2023 and ratified by the Quality Council on May 5, 2023

In academic years 2022-23 a program review was scheduled for Computer Science. This was the 2nd program review for this program. The timeline of the review was as follows.

PROGRAM UNDER REVIEW

PROGRAM	SENATE APPROVAL DATE	PREPARED BY
Bachelor of Arts - Computer Science	July 14, 2023	Provost and Vice-President
Bachelor of Science – Computer Science		

A. REVIEW TIMELINE

SELF-STUDY REVIEW TIMELINE	DATE
1. Self-Study Presented to AQAPC	Apr. 22, 2022
2. Site Visit Conducted	Nov. 16 – 17, 2022
3. Reviewer's Report Received	Feb. 1, 2023
4. Department's Response Received	March 18, 2023
5. Dean's Response Received	April 25, 2023

A. REVIEW SUMMARY

Two external reviewers conducted the review. During the in-person site visit, the reviewers met with the following groups and individuals:

Provost and Vice President, Academic

Department Chair and Internal Review Committee

Executive Director, Library Services and Librarian

Computer Science Faculty

Registrar and Associate Registrars

The academic programs offered by the Department which were examined as part of the review included:

Bachelor of Arts – Computer Science

Bachelor of Science – Computer Science

The follow program strengths were noted:

Nipissing offers a general program in Computer Science which includes the core topics such as Programming, Data Structure, Software Engineering, Discrete Mathematics, Database, and Computer Organization. In addition to the solid foundation, the computer science program has developed a niche area in game design and development. Recently, the university has engaged in recruitment of international students from India and the number of applications for computer science programs has been doubled. All those indicate that the program is consistent with Nipissing's mission and academic plan.

Summary of review team recommendations:

- Merge the BA and BSc in Computer Science into one integrated program to boost enrolment and appeal.
- Enhance collaboration with admissions and the registrar to better recruit and convert both domestic and international students.
- Pursue transfer and articulation agreements with Ontario colleges to streamline student pathways.
- Review and update the undergraduate curriculum to improve student progression and retention, including potentially adding new foundational courses.
- Introduce a fourth-year Algorithms course to align with other universities' Computer Science programs.
- Modernize specific course content (e.g., COSC2116, COSC3657) and update learning outcomes as needed.
- Consider offering COSC 1901 or 1902 as electives for CS students and as mandatory computer literacy courses for other disciplines.
- Lower the minimum enrolment required to run a course from 15 to 10 students to expand course offerings.
- Develop a co-op program and a certificate program based on faculty expertise and market demand.
- Ensure replacement hiring for faculty positions in Computer Science.
- Seek special funding from administration to support department growth, given sector trends in Ontario.
- Increase alumni engagement, particularly through social media.
- Hold a faculty retreat every two to three years to involve stakeholders.
- Establish connections with the local IT industry in preparation for the co-op program.

Status:

Due date for 2 Year Follow-up Report: 2025

Date of next Cyclical Review:2029

B. IMPLEMENTATION PLAN

Below are the recommendations that require specific action as a result of the Review, along with the identification of the position or unit responsible for the action in question. Notwithstanding the position or unit identified as being responsible for specific recommendations, the Dean of the Faculty has the overall responsibility for ensuring that the recommended actions are undertaken

RECOMMENDATION	RESPONSIBLE MEMBER/UNIT	PROJECTED COMPLETION
Based on Recommendation #1, I support the Dean's recommendations to remove the prescribed list of science courses and allow BSc Comp Sci students to choose a workable major or minor from other science degree programs.	Chair and faculty with recommendation to Dean and curriculum approval process	Fall 2023
Based on Recommendation #2, the Post Baccalaureate Diploma in Artificial Intelligence and Machine Learning will be recommended to ACC at the June 12th, 2023, meeting. If approved, it will go to the June 26th Senate meeting. If approved there, recruitment can begin for either the January 2024 or September 2024 intake.	After approval, Dean communicates to RO	First intake January 2024
Based on Recommendation #3, approval for additional college pathways will go to the June 2023 Senate meeting.	Recommendations for additional pathways go the June 2023 Senate meeting	First intakes January 2024
Based on Recommendations #4, 5, 6, 7, and 13, the department should undertake a curriculum review with the goal of better supporting students' progression and to improve the retention rate. Potential changes to be considered include creating an Introduction to Computer Science II course, adding a second Data Structures course, and adding either COSC-1901 or 1902 to the Computer Science 1st year requirements to help students transition from 1st year to 2nd year.	Department members, and then follow the regular curriculum approval process	Fall 2023
Based on Recommendation #10, work continues to create an Industrial Research Chair position in Artificial Intelligence and Machine Learning.	Dean with city and local businesses	Hire for September 2024
Based on Recommendation #14, the Dean should continue to network with local IT industries to ensure opportunities for co-op and collaboration with the Computer Science program.	Dean and co-op coordinator A/S Office	Ongoing

