**To:**        Vice President Academic and Research
**From:**    Director, School of Computer Science and Technology
**Date:**    December 5, 2023
**Re:**        Report of the School of Computer Science and Technology on the status of the Implementation Plan for Computer Science program review
**Due:**        December 4, 2023_(due 18 months after the Senate approval of the Final Assessment Report)

---

Dear Dr. Michele Piercey-Normore, VP, Academic and Research

I am glad to update you on the completion of our report detailing the status of the Implementation Plan for our Computer Science program review. In adherence to your guidance, we have meticulously addressed each recommendation or suggestion individually. The responses have undergone thorough consideration and garnered unanimous approval from all members of the School of Computer Science and Technology.

We appreciate the chance to evaluate and act upon the recommendations outlined in the Final Assessment Report. If you have any inquiries, please feel free to contact me.

Simon


Simon Xu, Ph.D.
Professor and Director
School of Computer Science and Technology


IQAP Article 3.6
Step 19: 18 month status report (p. 38)
The department will prepare a report on the status of the Implementation Plan 18 months following the Senate's approval of the FAR. The CAO or designate will monitor the completion of the status report. The Department will submit the status report to the Office of the CAO who will then submit it to QualCom for review. QualCom may request additional information or action from the Department

Step 20: Senate approval of 18 month status report:
When QualCom is satisfied with the 18-Month Status Report, QualCOm will forward a recommendation to the Senate for approval of the report.

IQAP Article 3.7.1 (p. 39)
The Office of the CAO will post the approved 18 month status report to the university website. The Office of the CAO will forward the Senate-approved 18 month status report to the Board of Governors for information. .

| **Progress on Implementation Plan** |
|---|
| *Briefly describe the status of each recommendation. If the status is incomplete, provide a rationale. If there were any alterations to the original Implementation Plan, please provide the rationale.* |

| Recommendation 1 | With increasing enrollment, it is recommended to ensure effectively the quality of programming (recommendations 1 and 11 in the Report on Program Quality) |
|---|---|
| Status: | *Completed and ongoing* |

| | |
|---|---|
| Details: | Four primary measures have been implemented to enhance the quality of programming:<br><br>1. Multi-Section Policy Implementation:<br>  - Developed a multi-section policy focusing on courses like COSC1046, COSC1047, COSC2006, and COSC2406.<br>  - Assigned specific full-time members to oversee these multi-section courses.<br>  - Established shared folders with standardized syllabi templates and related documents to ensure consistency across multiple sections.<br>  - Aiming to extend this policy to other multi-section courses when feasible.<br><br>2. New Faculty Mentorship Program:<br>  - Implemented mentorship programs for new faculty members, pairing them with experienced senior faculty.<br>  - Guidance provided on various academic matters, including student advisory processes, project and thesis supervision, enhancing online teaching, and addressing issues related to student academic dishonesty.<br><br>3. The school establishes a policy mandating that the final exams for all online offerings of first and second-year core Computer Science courses, essential for our degree programs, account for a minimum of 35% of the final grade. Additionally, these exams must be supervised by a suitable online proctoring service.<br><br>4. The school introduces a policy stipulating that enrollment in an online degree, accelerated degree, or certificate program is a prerequisite for students to take online versions of the specified first and second-year core courses, including their associated labs.<br><br>To further support these initiatives, we request administrative assistance, including the hiring of an administrative assistant for the Brampton campus and a program coordinator for all campuses. Job descriptions for both positions have been developed, and close attention is being paid to these matters to accommodate the growing needs of the SCST. |
| Recommendation 2 | Revise course descriptions and titles to follow the current state of knowledge and make courses more attractive |
| Status: | *Ongoing in progress* |
| Details: | Selected courses are undergoing modifications in their descriptions to align with the latest knowledge and enhance their appeal. The courses include: |

| | |
|---|---|
| | 1. COSC2036 Game Design I<br>2. COSC2636 Game Software Engineering<br>3. COSC3036 Game Design II<br>4. COSC4596 Mobile Application Development II<br>5. COSC4606 Data Management Systems<br><br>The school is currently in the process of developing a course revision template to facilitate these changes. |
| Recommendation 3 | COSC 1701 Computer Applications I and COSC 1702 Computer Applications II should not be taken as COSC elective credits for computer science program students |
| Status: | *Completed* |
| Details: | During a departmental meeting on April 4, 2022, it was resolved that the COSC1701 and COSC1702 courses, given their introductory nature, should be considered general elective credits rather than SCST electives. These courses provide an introduction to software tools like word processors and spreadsheet tools. This change has been approved by the senate and the University Calendar has been revised to reflect this modification (refer to page 94).<br><br>To serve as a reminder, the Registrar's Office will include a note on the degree audit sheets currently in use until a system is implemented to flag this change. |
| Recommendation 4 | Offer more advanced cutting-edge courses as elective courses to extend the opportunities for the students to choose from, such as data mining, data analytics, big data, visualization, cloud computing, and deep learning |
| Status: | *Completed and ongoing* |
| Details: | Every semester, the Special Topics courses COSC4426 and COSC4427 feature cutting-edge subjects, including:<br><br>1. Neural Networks and Deep Learning<br>2. Microcontroller programming and interfacing<br>3. Wireless Networking<br>4. Serious Game Design and Development<br>5. Cloud Computing<br>6. Internet Security<br>7. Software Testing, Quality Assurance, and Release Management<br>8. Introduction to Data Science<br><br>These specialized topics follow a cyclic schedule and were thoughtfully selected to align with the needs of local and regional research centers and industries. For instance, the Great Lakes Forestry Research Centre in SSM consistently seeks graduates with expertise in data |

| | |
|---|---|
| | science and related fields. |
| Recommendation 5 | The School and faculty members are recommended to make more/maintain efforts in conducting high-quality and visible research, providing the students with more opportunities to learn the most advanced technologies, and producing high-quality graduates |
| Status: | *Completed and ongoing in progress* |
| Details: | Faculty members in SCST actively engage in research and involve students in various related activities, as outlined below:<br><br>1. **Publications**: Numerous publications, including journal articles, editorships, refereed conference papers, and book chapters, along with the presentation of recent publications on personal web pages.<br><br>2. **Funding Initiatives**: Successful applications for funds and grants, such as the Algoma University Research Fund, startup funds, NSERC Discovery Grant, Algoma RCM funds, and NSERC Undergraduate Student Research Awards (USRA'23). Research proposals have also been submitted for Mitacs Globalink Research Internship (GRI'23).<br><br>3. **Student Supervision:** Supervision of undergraduate students in their projects and theses, providing exposure to advanced research methodologies and the latest developments in the field.<br><br>4. **Collaborations**: Collaborations with faculty members from other departments and external organizations, including the City of Sault Ste Marie, City of Brampton, clinics in Sudbury, Algoma Steel, Bushplane Heritage Centre, Great Lakes Forestry Research Centre, Queen's University Telecommunications Research Lab (TRL), School of Computing, DePaul University, USA, and the School of Computer Science at the University of Windsor.<br><br>5. **Interdisciplinary Research:** Broadening the interdisciplinary nature of research endeavors, working on projects that involve AU students in real-world applications, and preparing students for professional challenges.<br><br>6. **Student Presentations**: Organization of presentations where award-winning AU students share information about their research work, fostering knowledge-sharing among AU students.<br><br>7. **Workshops/conferences**: Organization of IEEE international conferences, day-long workshops, including a hands-on practical session on Amazon Web Services, with plans for another workshop on Data Analytics using Tableau - Hands On Approach.<br><br>8. **Conference Participation**: Attendance at conferences, including IEEE International Symposium on Personal, Indoor and Mobile Radio |

| | |
|---|---|
| | Communications, Collision Conference 2023, mentoring upper-year female students for participation in the Annual Celebration of Women in Computing Conference 2023, IEEE International Conference on Communications, and serving as a Technical Program Committee Member at the 20th International Conference on Mobile Systems and Pervasive Computing.<br><br>9. **International Research Internship**: Mentoring a student through a three-month international research internship, providing valuable cross-cultural research experiences. |
| Recommendation 6 | Ensure regular course content updates for the online programming offered to maintain quality |
| Status: | *Completed and ongoing in progress* |
| Details: | The SCST is in the process of formulating an internal plan to ensure regular updates, which will be communicated to the eLearning office. Faculty members currently teaching online courses have already been contacted by the eLearning office for routine updates. Furthermore, part-time instructors delivering online courses have received constructive feedback through part-time teaching evaluations, aiding in the enhancement of their courses. |
| Recommendation 7 | It is recommended that the university and the School make more connections to the local industry to track the alumni's working performance and visible contributions to the industry, which will provide solid indicators for keeping or improving the program to be developed sustainably |
| Status: | *Completed and ongoing in progress* |
| Details: | Members of the SCST, along with students, have established collaborations with various local industries and organizations in the IT and computing sectors, including:<br><br>- Ontario Lottery and Gaming Corporation (OLG)<br>- Algoma Steel<br>- InsightWorks<br>- Workiva<br>- Canadian Bank Note<br>- Createch 360<br>- Great Lakes Forestry Research Centre<br>- Algoma District School Board<br>- Canadian Bushplane Heritage Centre<br>- City of Sault Ste Marie<br><br>Several ongoing projects involve the active participation of the SCST students. For instance, a thesis student is partnering with Algoma Steel and Insight Works in developing a VR simulation for crane operator |

| | training. |
|---|---|
| | The SCST is in the process of documenting its connections with local industries and organizations, aiming to send out questionnaires to graduates to track alumni working in various sectors and their professional activities. Many alumni can already be found on LinkedIn, and efforts are being made to reconnect with them for potential opportunities for current students, such as internships and co-op programs. |
| | Additionally, in collaboration with the city of Brampton, AU students are engaged in a project titled "Geographical Clustering of Businesses in Brampton," where they analyze clusters of specific types of businesses to understand concentrations and patterns within the city. |
| | The SCST is also working on establishing and maintaining a database of local businesses, particularly in Brampton, where computer science students have either secured employment post-graduation or completed co-op programs. |
| | Looking ahead, there is a proposal to organize an alumni gathering to facilitate connections and collaborations among current students, alumni, and faculty. |
| Recommendation 8 | The school should organize more frequent research seminars with external speakers for faculty members and senior undergraduate students. The seminars could be interdisciplinary so that faculty members from other academic units can attend and collaborate. |
| Status: | *Completed and ongoing in progress* |
| Details: | The School regularly hosts external speakers each semester who deliver technical seminars and talks. On March 30, 2023, a seminar titled "Machine Learning with Augmented Reality" was presented by Hubert Hu, a PhD candidate from the GEMLab at Dalhousie University. This event was attended by both undergraduate students and faculty members. Dr. Nathan Segers from Howest University, Belgium, covered the topic of XR technologies on October 23, 2023.<br><br>Upcoming seminars and talks include a presentation on December 6th, 2023, by Dr. Wenying Feng, a professor from Trent University, on Artificial Intelligence and Machine Learning. Additionally, Dr. Salimur Choudhury, an associate professor from Queen's University, is scheduled to speak to our students in the 24W term. |

*Insert more lines as needed*

Please use the space below to report on anything the Department/Program believes is appropriate to bring to the Algoma University Senate concerning this program. Please outline

and explain any circumstances that have altered the original Implementation Plan and any significant developments or initiatives that have arisen since the program review.

The Master of Computer Science program is scheduled for delivery in January 2024. Additionally, a new graduate program, Master of Science in Computer Science, is currently in development. The SCST is actively working on introducing a new specialization in the field of Data Science and AI.