

Department of Chemistry: Program Review Progress Report

Rec #	External reviewers' recommendation	Unit Response	Action to be taken/Timeline	Progress (October 2025)
A. Program's Contribution to the University's Strategic Goals, Vision, Mission, Plans, and Values				
1	2.1 – A more robust engagement with students at all grade levels throughout the region, through classroom visits, school visits, and on-campus K-12 student events. Chemistry is one of the most exciting disciplines from a public perspective and events involving chemistry magic shows and demonstrations generate a strong connection between the community and department.	“Sporadic classroom visits/shows have occurred over the years, mostly through personal connections of faculty at a given school. But to mount a serious K-12 outreach program that is equally accessible to, and inclusive of, schools in the entire community would require much more time than is available to faculty members with full teaching loads and service and research commitments...” (Response shortened for brevity)	1) Engagement with students have occurred and is on-going. This was paused during the pandemic, but all Science units participate in several community outreach activities and have hosted many K-12 students on campus. Timing: Ongoing. 2) There is an expectation of service and faculty contribute to outreach activities as needed. Timing: Ongoing.	Dept comments/update on progress to December 2025: Chemistry faculty and staff have participated in various outreach activities over the past few years. Most notably, a “Chemistry Lab Skills” competition was launched this past academic year, which saw participation by teams of students from several local high schools.
2	2.2 – Consider offering a course or workshop on the subject of Indigenization, presented by a scientist with expertise in the area, for all faculty and staff within the department.	“We support the introduction of Indigenous content or learning methods in those courses where it can be done in a meaningful and appropriate way by an instructor with relevant expertise. We are open to the reviewers’ suggestion above, as long as it will be possible to	1) As recommended by reviewers, invite Indigenous scientists or allies to expand Indigenization knowledge through workshops to be offered within the year. Timing: By Spring 2024 2) Include territorial acknowledgements either	Dept comments/update on progress to December 2025: This has not been completed.

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		have a free and open discussion of legitimate concerns about requiring Indigenization in all courses."	within Blackboard courses platform and/or in all course syllabi. Timing: Fall 2023. 3) Set up an informal group/committee at the faculty level to discuss Indigenization and allyship. Timing: Already started.	
3	2.3 – Explore re-designing the timing or sequences for the delivery of some undergraduate labs (particularly first year) so that students engage with experiments before being taught the underlying theory. (For example, a Charles Law experiment prior to introducing the gas laws.)	"We do not agree that this is a useful approach to university-level lab pedagogy. Even at the first-year level, theoretical background is essential, for example so that students can do necessary calculations before, during, and after the lab. We would like our lab students' minds to be engaged, thinking about what they are doing, as much as possible during hands on work. When students carry out a lab without understanding underlying theory, it encourages a "cookbook" approach..." (Response shortened for brevity)	1) This has been explored, and some virtual labs have been explored, but due to safety as noted in response for actual physical labs, this is not feasible at present. Timing: No action. 2) Some lecture/lab courses could be separated as independent courses and there are plans to separate for example CHEM 341 into separate lecture and lab courses, but the lecture course would be a prerequisite for the lab course. Timing: Within the year.	Dept comments/update on progress to December 2025: Our original response still stands for this recommendation. We do not believe this to be a pedagogically sound approach. We prefer that students are properly prepared for lab work so that they can fully engage with the material.

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B. Alignment with Institutional Learning Outcomes				
4	3.1 – Ensure strong linkages between the program and course specific learning outcomes.	“We will revisit LOs at some point when time permits, and we will also consider the new LO suggested above.”	1) Curriculum updating is a continuous process and is part of faculty’s workload to ensure there is strong linkage between program and course outcomes. Timing: Ongoing.	Dept comments/update on progress to December 2025: Work is currently underway to update LOs in course outlines.
C. Ministry, Professional/Industry, and Academic Standards				
5	4.1 Increase the fume hood capacity in upper-level laboratories to achieve a student-to-fume hoods ration of 2:1. At most two students should be sharing a fume hood during a laboratory section.	“We agree, this would be ideal and consistent with current standards for modern teaching lab spaces. A renovation proposal was submitted over a year ago which proposed exactly what is recommended above. It is unclear at this point whether our plans will be approved.”	1) Upgrading of the A-West building that includes the Chemistry labs which are almost 40 years old, is among the top 5 priorities in our 2023-24 Five Year Capital Plan. Campus Planning recommended this as priority 3 out of 5 for Provincial funding. Timing: within 5 years	Dept comments/update on progress to December 2025: No progress has been made on this recommendation. Students, faculty, and staff continue to be exposed to harmful fumes during lab classes due to the fact that our labs do not meet modern standards for fume hood access.

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6	4.2 Replace and update cabinetry and shelving in the undergraduate laboratories and address fundamental safety issues.	"Again, these improvements have been proposed in our renovation proposal. The safety and space issues mentioned above are well known to administration and facilities management, but little substantive steps have been taken to address them." (response shortened)	1) As noted above, a complete renovation plan at a cost of \$40 M has been noted in the 2023-24 Five Year Capital Plan. Safety repairs are being done on a continuous basis by Facilities. Timing: Ongoing until full renovations within 5 years expected	Dept comments/update on progress to December 2025: No progress. Our original response stands.
7	4.3 Reconsider the design lay out of laboratory space or recommission additional space on campus for use in teaching chemistry laboratories. (Perhaps consider utilizing low service level laboratories for more than one degree program.)	"Recommendations 4.1 through 4.3 would be addressed if our recently submitted renovation plans are approved and funded."	1) As noted above, the Chemistry laboratories are close to 40 years old and hardware failure has been frequent in recent years. We submitted plans for renovation/updating, as well as expansion in previous Capital Plan requests and as frequency of leaks/breakdowns increases, this must become priority. Timing: within 5 years	Dept comments/update on progress to December 2025: Members of our department put a great deal of time and effort into creating renovation plans, which were championed by our previous. We visited other institutions' labs, researched current standards, and worked with a project manager to draw up plans for our lab renovation. Since then, we have been informed by our new Dean that UFV administration has abandoned renovation plans for our labs. This is a particularly disappointing and disheartening outcome from the perspective of our staff and faculty who put in

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				much time and effort to renovation plans under the impression that they were approved to move forward.
8	4.4 Establish adequate space to allow students to safely engage in upper-level independent study and research courses. In particular, research space needs to be provided for honours students.	"Greater wet lab space for research would be ideal, and long overdue, but is unlikely to materialize in the foreseeable future within the current building space of the Abbotsford campus."	1) Again as noted above renovation and expansion plans have been submitted in previous Capital Plan requests. Research students have been welcomed in the Biology labs if feasible to complete their projects. Timing: within 5 years	Dept comments/update on progress to December 2025: No additional space or improvements to current space have been made.
9	4.5 Develop stability in the institutional Health and Safety Office and a system of periodic lab inspections.	"This would be ideal, but is beyond the control of our department."	1) The Health & Safety office has completed the hiring of key personnel, and safety lab inspections are being prioritized. Timing: within the year	Dept comments/update on progress to December 2025: Some lab inspections conducted by safety office have occurred. We cannot comment on the stability in this office.

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10	4.6 Apply for accreditation of the Chemistry degrees through the CSC.	"We will discuss beginning the accreditation process."	1) This is desirable but until the proper infrastructure is in place, this may take time. Timing: 5+ years	Dept comments/update on progress to December 2025: This has not yet been undertaken.
11	4.7 Re-structure the sequencing of the physical chemistry course curriculum to better reflect disciplinary norms. (i.e., Chemical Kinetics and Thermodynamics before Quantum Mechanics).	"This course sequence was chosen originally to align our courses with the similar sequence offered by SFU (at the time, UFV did not offer BSc degrees of our own). Now that UFV offers degrees independently of SFU, we will reconsider the order of these courses in light of the reviewers' recommendation."	1) Curriculum updating is ongoing and as noted by the department's response, this is being re-considered, thus the expectation is that changes are forthcoming. Timing: within 1 yr	Dept comments/update on progress to December 2025: A new faculty member has recently been hired in this area. He does not see any value in the recommended re-structuring, so no changes have been made.
12	4.8 Hire a biochemist or, preferably two biochemists, to support the new degree program.	"We hope that UFV administration will support the growing biochemistry major program with the hiring of more faculty with expertise in this area. We will advocate for this."	1) The Biochemistry program is a joint program with Biology, and a faculty member with expertise in biochemistry was hired 2 years ago. As the program becomes popular, hiring of new faculty will be prioritized. Timing: TBD pending demand	Dept comments/update on progress to December 2025: No new hires have been offered, only replacement hires for current positions.
13	4.9 Hire a chemist to replace some of the teaching being carried by sessional instructors.	"We agree that this would be ideal, however we have seen no evidence that UFV is willing to reduce heavy reliance on non-	1) Hiring of faculty is directly proportional to student demand, and student growth in Chemistry has been stationary. If demand	Dept comments/update on progress to December 2025: No new hires have been offered, only replacement hires for current

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		permanent sessional and LTA instructors. From our perspective, UFV's focus in recent years appears to have been creation of new positions in administration and non-instructional areas."	increases, especially once the infrastructure is updated, we expect growth and this could be considered then. Timing: 5+ years	positions.
14	4.10 Explore the separation of lecture and laboratory components for all courses.	"We have discussed this issue, and lab separation is being seriously considered for CHEM 341 so that students will learn theoretical aspects in lecture as a prerequisite for the lab course. Separation of labs may also be possible in other courses. For certain courses, however, lab separation is not desirable, as the lab content is integral to the lecture content (examples include CHEM 224, CHEM 324, CHEM 350, CHEM 422)."	1) This is being considered as it could also facilitate scheduling of labs, and as noted, CHEM 341 could be split into separate lecture and lab components. However, not all courses can be separated and the curriculum committee should consider pros and cons of splitting the lab and lecture components for all courses Timing: within 3 years	Dept comments/update on progress to December 2025: No changes made.
D. Standards of Educational Practice				
15	5.1 Establish industry related work study or co-operative education opportunities.	"UFV's Center for Experiential and Career Education is tasked with coordinating co-op education opportunities. We would support any efforts by this centre to create more science co-op opportunities by engaging more with local	1) This is in place and students are getting work-study and co-op opportunities. We are alert for any student opportunities, and these are continuously communicated to students. Timing: on going	Dept comments/update on progress to December 2025: We have made initial inquiries with the Centre for Experiential and Career Education to inquire about creating more coop opportunities, but we need to follow up if this is a priority.

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		industry.”		
16	5.2 Explore developing alternative routes for students to engage with local and regional industry.	“We will discuss possibilities in this regard.”	1) Direct contact with local industries are leading to collaborative ventures Timing: on going	Dept comments/update on progress to December 2025: We have contacted the Centre for Experiential and Career Education to explore opportunities, but we need to follow up if this is a priority.
E. Utilization of Resources				
17	6.1 More space or a restructuring of the present space to better accommodate both student numbers and faculty needs.	“We fully support this recommendation. We have submitted a renovation proposal for teaching labs and prep space. More space would be ideal, but unlikely to materialize in the foreseeable future.”	1) We are in agreement and this was discussed under recommendations 4.1 to 4.4 Timing: within 5 years	Dept comments/update on progress to December 2025: No progress.

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18	6.2 Establish a plan for the acquisition of a high-field NMR (possibly with the assistance of Pacifican, NSERC RTI or through institutional fund-raising efforts) and the budget for operational costs.	“(Associate Professor) has explored the costs and possibilities of acquiring and maintaining a high-field NMR instrument. Even if the cost of acquiring the instrument could be covered by one of the above-mentioned grants, the ongoing costs of maintenance and technician time would require a significant increase in the current departmental budget.”	1) The department has a bench top NMR for basic teaching purposes. Ideally, a high field NMR would be desirable but costs associated with its purchase and upkeep is currently outside our funding envelope. Applying for CFI or other external funding sources is encouraged. Timing: within 5 years	Dept comments/update on progress to December 2025: Not feasible at the moment due to lack of space, operating/maintenance costs for the spectrometer, increased demand on limited technician resources to maintain instrument.