

B.Sc. in Nanoscience
Update on Learning Outcomes Assessment Activities
Programs Being Reviewed: BSc Nanoscience
Completed by: Seán Barry

1. Who is responsible for the assessment of program learning outcomes?

- Learning Outcomes Assessment Committee
- Undergraduate and/or Curriculum Committee(s)
- All faculty in unit
- Other:

2. Which program learning outcomes have been assessed since the last CPR? (*list the learning outcome statements, or abbreviated versions, below*)

3. What methods have been employed to assess the program learning outcomes? (*check all that apply*)

- Reviews of examples of student work
- cuPortfolio
- Student surveys or focus groups
- Faculty retreats or discussion sessions
- Reviews of program curricula and courses (*includes efforts to align course and program learning outcomes*)
- Other _____

4. Provide a brief description of the assessment activities undertaken since your last CPR Review.

Learning objectives and a program assessment have been undertaken as part of an overall redrafting of CHEM department programs. Several of these changes will be voted on in a Departmental meeting on 2022-08-30.

Naturally, many of the assessment activities were derailed by the COVID pandemic, and will be restarted this year.

5. What assessment activities will be undertaken between now and your next CPR? When will these be implemented?

A “community meeting” with the undergraduate chair (David Brock), the departmental chair and program originator (Seán Barry) and all nanoscience students (11 in total: 4 1st, 3 2nd, 2 3rd, and 2 4th year) will occur in 2022-09 (to be scheduled) This will serve as both a community building exercise and program assessment. A formal assessment (online) will be launched in 2023-01 to interrogate each cohort on their satisfaction with the program.

B.Sc. in Nanoscience
Update on Unit Response to External Reviewers' Report & Action Plan
Programs Being Reviewed: BA Programs
Completed by: Sean Barry
Approved by Dean: include title/date

Note: This document is made available for public posting on the Vice- Provost's website.

***** Denotes items that SQAPC would like the unit to pay particular attention to based on their past review of the original action item.**

| External Reviewer Recommendation | Original Action Item | Owner & Timeline | Progress Update September 2021 | Will the action described require calendar changes? (Y or N) |
|---|---|---|---|--|
| 1. Improve the student cohort experience by branding the Bachelor of Nanoscience program. | We will be having semester meet and greets with all Nanoscience students at the beginning of the Fall and Winter terms. In the Fall, the program Advisor will introduce himself and talk about protocol for booking appointments. | <i>Undergraduate Advisor, (Nanoscience and Chemistry). Immediately.</i> | <i>This was canceled in 2021 due to COVID restrictions. This is a good duty for the nanoscience advisor. The advisor will meet with the incoming cohort of the Nanoscience program (live or by Zoom) in September 2022 as well as January 2023. These will be to let the students ask questions and get acclimatized to the program, as well as set a "social" tone for meeting other nanoscience students and instructors.</i> | <i>N</i> |
| 2. Faculty involved in the program should meet with the Bachelor of Nanoscience students once per term as a group. | See recommendation 3. | <i>Undergraduate Advisor, (Nanoscience and Chemistry). Ongoing.</i> | <i>This was canceled in 2021 due to COVID restrictions. Arranging this is a good duty for the nanoscience advisor. With the exception of the Summer term, the nanoscience cohort will meet with the undergraduate advisor, and the nanoscience instructors and potential research supervisors. As above, these meetings will be ideally held live (or by Zoom if necessary) in September and January each year, starting in Fall of 2022.</i> | <i>N</i> |
| 3. A faculty member involved in the Bachelor of Nanoscience program should be identified to the students as an advisor. | The advisor for the program will arrange a meeting in January 2020 between the students of the Nanoscience program, and the key instructors of the program. This meeting will be to discuss the expectations of the program, ensure | <i>Undergraduate Advisor, (Nanoscience and Chemistry). Ongoing.</i> | <i>No advisor for nanoscience was readily identified. This action should be undertaken by the chair: it will be recommended to the Chair that the undergraduate advisor for Chemistry also advise Nanoscience due to the similarity of the programs, and since Nanoscience is offered by the Chemistry</i> | <i>N</i> |

| | | | | |
|---|--|---|---|----------|
| | that the students know the key instructors and their areas of research (for potential CHEM 4908 thesis research projects), and to meet each other. Here, the students will be informed that Seán Barry is the current advisor for the program. | | <i>department. This change will be introduced in Summer 2022 (when approved by the Faculty).</i> | |
| 4. Efforts should be made to incorporate more bio, energy, and environmental nanoscience into the program to attract more students. | Administrator of the Carleton nanofab FANSSI has undertaken a redesign of the keystone courses in the Nanoscience program (CHEM 3600 : Introduction to Nanotechnology and CHEM 4103 : Surfaces and Nanostructures). Given the feedback from the program review, he will strengthen the themes of bio, energy, and environmental nanoscience in these courses. | <i>Facility Administrator, NanoFab FANSSI. Immediately.</i> | <i>These redesigned courses have been delivered for two years (2020-2021, 2021-2022).</i> | <i>N</i> |
| 5. Engineering should set aside seats for the Bachelor of Nanoscience students and streamline the entry process for these students to take their courses. | We have been in discussions with the Electronics Department in Engineering on how to set up the courses to allow Nanoscience students in without requiring special permission. The Undergraduate Administrator will continue to correspond with the Department throughout the timetabling process. | <i>Undergraduate Program Administrator. Immediately.</i> | <i>Due to COVID restrictions and a change in personnel (due to maternity leave), this was discussed but never fully implemented. The Chairs of Chemistry and Electronics will meet to discuss these accommodations in Fall 2022. This will ideally result in the number of upcoming nanoscience students for each class being reported to Engineering a term in advance to guarantee seats being set aside.</i> | <i>N</i> |
| 6. Greater efforts should be made to advertise this program to high school students. High school students are not aware of nanoscience. | This year the Chemistry Department will be hosting the first NanoDay. This day is designed to teach high school students who are interested in Chemistry more about the fields of Nanoscience and Nanotechnology. This outreach event is for students in Grade 11 Chemistry or Grade 12 who are interested in studying Science at Carleton University, or who are passionate about Chemistry and would like to learn more about Nanoscience and the programs | <i>Maria DeRosa. March Break 2020.</i> | <i>This effort was canceled due to COVID restrictions. It will be reimplemented when live meetings can be held.</i> | <i>N</i> |

| | | | | |
|--|--|--|--|--|
| | <p>Carleton University has to offer. This year we will be accepting 45 high school students from the Ottawa Area. We will use the outcome of this year's event decide on the size and scope of future Nanoscience outreach events.</p> | | | |
|--|--|--|--|--|