



September 22, 2021

To: Steve Dew, Provost and Vice-President Academic
cc. Andrea Patrick, Selection and Review Initiatives Coordinator

Re: Department of Biological Sciences QA review responses

Please find in the following pages the responses of the Department of Biological Sciences, the Faculty of Science and FGSR to the final reports of the external committees that participated in the quality assurance review of our undergraduate and graduate programs.

I wish to thank past Chair David Coltman, past Associate Chair Undergraduate Jocelyn Hall, Associate Chair Graduate James Stafford, Academic Department Manager Dianne Payeur, Dean Faculty of Science Fred West, Associate Dean EDI Tara McGee, Associate Dean Undergraduate Gerda DeVries, Associate Dean Graduate Mark McDermott, and Dean and Vice-Provost FGSR Brooke Milne for their help in formulating these responses.

The review process and the resultant thought that went into the responses will be valuable guide-posts for us as a Department as we move through current transitions and strategically plan the coming years in our future.

Please let me know if you have any questions and thank-you in advance for your time.

Sincerely,

Tracy Raivio

Professor and Acting Chair



Biological Sciences Undergraduate and Graduate Program Quality Assurance (QA) Review: 2020-2021

Excerpted Report & Response

Undergraduate Program Review

Programs:

Bachelors of Science (Honors & Specialization) in Ecology, Evolution and Environmental Biology

Bachelors of Science (Honors & Specialization) in Integrative Physiology

Bachelors of Science (Honors & Specialization) in Molecular Cellular and Developmental Biology

Bachelors of Science (Honors & Specialization) in Immunology and Infection

Bachelor of Science (General) with Major in Biological Sciences

Date of review: March 16-18, 2020

Reviewers: Dr. Judy Anderson, University of Manitoba, Chair; Dr. Melanie Rathburn, Mount Royal University; Dr. Carrie Smith, University of Alberta

Program Strengths

The Department of Biological Sciences (DBS) is recognized nationally and internationally as providing an exceptional undergraduate education and experience, and also as among the top Biological Sciences research departments.

The QA Committee recognized the energy and passion of academic administrators as well as the departmental executive, in working to achieve their goals to broadly enable the success of current students and staff toward building a better future. Specific strengths include:

- DBS leadership's development of the current BSc programs from streamlining previous offerings,
- the championing of experiential learning and academic excellence by academic staff,
- the strengths and commitment of non-academic staff, in delivering high-quality programs and supporting the substantial technical and logistical aspects of educational programs and initiatives in classrooms, seminars, and laboratory and field settings,
- the undergraduate students who engage in learning and research opportunities with enthusiasm while aspiring to enter further education or professional schools or careers in employment that utilizes the skills they learn while at the University of Alberta,
- consistently strong enrollment and course demand,
- enviable ability to support numerous graduate teaching assistantships to support the delivery of the undergraduate program,
- hands-on, experiential training that students are receiving in senior-level laboratory courses
- the development and prioritization of the BSc Renewal project to continue advancing the undergraduate program (including alignment of course and program learning outcomes) and goals to improve student success, in response to limitations the department identified in its self-study, and



- the reflective self-study review of programs that strongly facilitated our review.

Recommendations

Program Structure

Consider future program revisions that could foster interdisciplinary synthesis.

Response by the Department of Biological Sciences:

There are many opportunities for fostering interdisciplinary synthesis in the near future. Specifically, the BSc Renewal that is being spearheaded by the Faculty of Science (FoS) permits more flexible majors as well as the ability for students enrolled in honors programs to have minors. We have drafted new majors and new honors programs that have been approved in principle by the Departmental Council. These revised programs include breadth requirements. Similarly, UoA restructuring will likely lead to more integrations, especially with the Faculty of Agriculture and Life Sciences and Faculty of Medicine.

Response by the Faculty of Science:

Indeed, BSc Renewal will result in increased flexibility for all students, and will open up opportunities for all students to tailor their degree towards their interests by adding a minor (including existing minors offered by ALES and new minors offered through FOMD) or embedded certificates (many of which complement studies in Biological Sciences).

Continue examining the vast number of courses to determine the appropriate number of courses with the consideration of consistency across different programs. Consider synthesis of laboratory-only or research courses, as undertaken for the Field Course in Biology, to increase flexibility and program responsiveness to changes in academic staffing.

Response by the Department of Biological Sciences:

This recommendation is a priority for the Department of Biological Sciences (DBS) as we agree that we offer too many courses. Reducing course offerings is intimately tied to program mapping so that we ensure program learning outcomes are met. As a first step, we plan to strike a working group to strategically examine our molecular lab offerings.

Response by the Faculty of Science:

The Faculty of Science supports this initiative, and will facilitate moving course and program changes through governance channels.

Consider modifying course options and if needed, program structure, to capture evolving opportunities that arise from engagement of recent and new recruits to academic staff who are eager to lead DBS and fields of biology into the future and may see different opportunities for collaboration outside FOS than more established colleagues.

Response by the Department of Biological Sciences:

As mentioned above, with BSc Renewal we are in process of re-envisioning our major and honors programs to provide more flexible offerings. We anticipate that these program changes will lead to increased opportunities. All members of the academic staff have the opportunity to modify program structure through existing channels provided those modifications make sense in terms of meeting program level outcomes.



Response by the Faculty of Science:

The Faculty of Science agrees, and will facilitate moving course and program changes through governance channels.

Consider capturing the energy of University restructuring by enabling interested students to satisfy program requirements by taking non-DBS or non-FOS courses from Faculty of Medicine and Dentistry or the Faculty of Agriculture, Life and Environmental Science.

Response by the Department of Biological Sciences:

Our programs currently allow students to take non-FoS courses to satisfy program requirements. Again, revised majors and honors programs under BSc Renewal will permit even greater flexibility to take courses across campus.

Response by the Faculty of Science:

The Faculty of Science agrees; students will have more flexibility to choose their electives as a result of BSc Renewal.

Prioritize curriculum mapping in view of program-level outcomes to identify gaps and redundancies in course offerings.

Response by the Department of Biological Sciences:

Program mapping is a top priority for DBS.

Response by the Faculty of Science:

The Faculty of Science will support this initiative as needed.

Consider restructuring the governance of DBS processes to improve the success of academic staff with leadership skills/goals in UG programming, administration, and delivery.

Response by the Department of Biological Sciences:

We agree that DBS needs to be proactive in UG programming and administration. We will consider splitting Courses and Curriculum into separate graduate and undergraduate committees. There are many potential avenues to ensure greater success. Our Courses and Curriculum Terms of Reference were modified in 2019 to include the following: "a) To conduct thorough and rotating reviews of programs within the Department of Biological Sciences." We will include program advisors in this work to ensure this aspect of the committee is more proactive.

Response by the Faculty of Science:

The Faculty of Science welcomes this initiative.

Program Measures and Comparative Analysis

Evaluate how to learn and rapidly introduce EDI initiatives (equity, diversity, inclusion) that will improve access to and success in programs for all UG students. DBS should welcome leadership from new faculty, one of whom is a national EDI expert within the department.

Response by the Department of Biological Sciences:



The DBS is committed to improving EDI for all students. A Strategic Plan Working Group focused on improving the culture of DBS around EDI has drafted a set of recommendations for the Department leadership to consider implementing. This includes the formation of a standing EDI committee tasked with improving access to and success in programs for all DBS students.

Response by the Faculty of Science:

The Faculty of Science welcomes this initiative. The Associate Dean Engagement & EDI has supported the DBS working group and strongly supports plans to establish a standing EDI committee. The Faculty of Science Engagement and EDI committee includes a representative from DBS who reports on department EDI initiatives, learns from other department representatives, and is involved in assisting with Engagement & EDI initiatives at the Faculty level.

As a department and as individuals, DBS and all staff need to get active and focused on improving recruitment, retention, and success of Indigenous students.

Response by the Department of Biological Sciences:

We agree that these critical issues should be a priority of the Department, Faculty and University. With University restructuring, recruitment is being moved centrally. We plan to work actively with the new Associate Dean of Engagement and EDI to improve partnerships and the focus on recruiting, retaining and the success of Indigenous students. For example, members of DBS are engaged with the I-STEAM Pathways program that provides opportunities for Indigenous youth to participate in experiential post-secondary environmental education. We will actively work to increase such engagement.

Response by the Faculty of Science:

Improving recruitment, retention, and success of Indigenous students also is a priority for the Faculty of Science as a whole; we continue to work with the Office of the Registrar and the Department of Biological Sciences on these critical issues.

Faculty of Science and the Provost's Office should collaborate to educate and mentor staff (academic and non-academic) on issues related to EDI and Indigenous students, in view of the recommendations from the Truth & Reconciliation Commission.

Response by the Department of Biological Sciences:

Education and mentoring staff on EDI issues is a priority for DBS, Faculty and University. Across campus, there are many workshops being held on a range of topics. It is clear that DBS needs to work on promoting them. For example, the Centre for Teaching and Learning has workshops on addressing Racism and EDI in the Classroom. The formation of a standing EDI committee in DBS ensures that opportunities to educate and mentor staff in matters related to EDI and the TRC will be realized.

Response by the Faculty of Science:

The Associate Dean of Engagement and EDI is involved in a campus-wide network of EDI leads which is organized by the provost's office. Education activities related to Indigenous students include an Indigenous Initiatives section on the Faculty of Science website (Engagement & EDI page), and resources disseminated to department chairs and through the Faculty of Science in the lead up to the National Day for Truth and Reconciliation. The Faculty of Science supports Indigenous students through the Susan Jensen Indigenous



Support Fund. The Faculty of Science is currently preparing an Indigenous student recruitment and retention strategy.

Consider having students develop an inventory of the skills they develop and hone through courses and their progression through DBS programs to improve articulation of, and students' ability to self-evaluate their skills as part of ongoing professional development initiatives toward employment and further education/training.

Response by the Department of Biological Sciences:

This is an excellent recommendation that can be tied to our plans for program mapping. The recommendation to have students develop this inventory would be incredibly valuable for our students.

Response by the Faculty of Science:

The Faculty of Science agrees and will support this initiative. This recommendation dovetails nicely with the recent development of a set of Faculty-level learning outcomes which will form the foundation for program-level learning outcomes.

Update the DBS Strategic Plan to include quantifiable, actionable goals that can be used to help inform the Department's program renewal and future direction, and that reflect the FOS and University strategic plans.

Response by the Department of Biological Sciences:

The revision and renewal of the Departmental Strategic Plan, including quantifiable and actionable goals that are aligned with institutional plans, is something for the incoming Chair of DBS to consider.

Response by the Faculty of Science:

The Faculty of Science agrees and will support this initiative.

The BSc Renewal project in the Faculty, led by the Associate Dean (UG) and energized by the engagement of the Associate Chair (UG) and colleagues in DBS, should be finalized to provide a strong BSc Major program that can be embraced by the whole DBS as fostering educational and future employment opportunities for students. The BSc Major program in Biological Sciences should help reduce confusion on student choices. As recognized by DBS, the large BSc Majors student cohort should not come as a surprise to the department or be considered secondary in importance to the Honors and Specialization programs; these are future leaders in industry, consulting, and health professions.

Response by the Department of Biological Sciences:

FoS has been working diligently to finalize these changes. We strongly believe that these changes will enhance student learning and engagement. As noted above, we have drafted new programs in line with BSc Renewal, including a new General BioSci honors program.

Response by the Faculty of Science:

The Faculty of Science continues to work with the Office of the Provost to move BSc Renewal through governance channels during the 2021-2022 academic year.

Teaching and Learning

The Faculty of Science and the university should explore new ways to evaluate teaching performance by faculty.

Response by the Department of Biological Sciences:

This initiative is currently underway at FoS. The FoS has a standing Teaching and Learning committee (with representatives from each department). In the last couple of years, this committee researched teaching evaluation and wrote an extensive document on recommended changes to teaching evaluation in the faculty. The incoming Associate Chair, Undergraduate (starting 1 July 2021) has identified implementing these recommendations as a priority.

Response by the Faculty of Science:

The University has undertaken a project to revamp its evaluation of teaching effectiveness, and will be bringing a proposal forward to GFC in the relatively near future. These changes are likely to address some of the concerns that provoked this recommendation. In addition, FoS will continue to socialize the implementation of the changes outlined by the TLC within all departments, and fully supports efforts by DBS to begin field-testing them.

Consider the potential benefit, especially to new academic faculty and teaching staff, of holding an ongoing series of DBS workshops on teaching and educational pedagogy; such events would also help build a faculty cohort around teaching and be broadly supportive of the UG programs.

Response by the Department of Biological Sciences:

We agree that there is benefit for DBS staff to attend workshops on teaching and educational pedagogy. DBS will explore whether or not a DBS specific series is needed. There are substantive workshops on teaching and learning currently being run at both the Faculty and University level. Academic and non-academic DBS staff are active participants in these workshops, including leading a number of them. A more collaborative approach to teaching will be encouraged through the program mapping process and be maintained with working groups established for on-going program review, including for the new BioSci Major and Honors programs. More interaction and discussion about teaching on a regular basis will promote professional development and could serve as a venue for workshops and training sessions within DBS. The Department's lab coordinators, in particular, are already active in seeking out professional development opportunities.

Response by the Faculty of Science:

The Faculty of Science welcomes these initiatives.

Consider conducting a scholarly evaluation of online tools before relying on their validity for evaluating teaching and learning.

Response by the Department of Biological Sciences:

We will ensure that if we are to adopt online tools for the evaluation of teaching and learning, that they have been scholarly evaluated. Methods for the evaluation of teaching and learning were researched and reviewed by the FoS Teaching and Learning committee as part of their report submitted to the Dean in 2019.

Response by the Faculty of Science:

The Faculty of Science agrees.



Consider program revisions that might attract non-FOS faculty members to teach undergraduate DBS courses, especially in light of future restructuring at the University of Alberta and the ongoing evolution of instruction in those units (e.g., FOMD, ALES). DBS faculty may also find their biology expertise can be valuable in helping teach in non-FOS programs; a reciprocal sharing of teaching in particular areas of content might lead to expansion of research horizons or other new opportunities.

Response by the Department of Biological Sciences:

Opportunities for sharing teaching between Faculties currently occurs in jointly delivered programs (e.g. Immunology and Infection) and interdisciplinary courses. Academic reorganization, which is intended to provide more opportunities for interdisciplinarity, might provide new opportunities for shared teaching at the College level. For example, courses in Conservation Biology, Botany, and Entomology would be good targets to discuss with colleagues in the Faculty of Agriculture Life and Environmental Sciences with respect to course overlap and shared delivery. This will be a priority of the new Associate Chair Undergraduate as the University restructuring will encourage interdisciplinary approaches to course offerings.

Response by the Faculty of Science:

The Faculty of Science welcomes these ideas, and agrees to facilitate discussions with other Faculties.

At University, Faculty and DBS levels, EDI perspectives and ways for Indigenous students to be successfully engaged in learning should be broadly incorporated. As DBS culture evolves around courses, curricula, and programming, all undergraduate students should be able to access learning-support resources that are adequately staffed. This includes the accessibility of faculty to biology-specific workshops that could help DBS address EDI issues and specifically foster Indigenous student success in their own teaching of content and its delivery.

Response by the Department of Biological Sciences:

We agree that fostering Indigenous and all students' success is a timely and critical issue. Similar to teaching workshops, DBS will explore whether or not a DBS specific series is the best avenue. These opportunities currently exist on campus, although it is clear that DBS needs to promote them better. These initiatives are identified as a priority in the University Restructuring.

Response by the Faculty of Science:

The Faculty of Science agrees. This is a university-wide priority. Florence Glanfield, Vice-Provost (Indigenous Programming and Research) leads and supports initiatives to Indigenize curricula at the University. The Centre for Teaching and Learning provides resources on Indigenizing and decolonizing teaching and learning. These resources and other Indigenous initiatives are included on the Faculty of Science Engagement & EDI webpage. The Faculty of Science supports First Peoples House which provides support to Indigenous students. The Faculty of Science supports efforts to Indigenize curricula within DBS and in other departments in the Faculty of Science.

Faculty Profile

Foster greater interaction among faculty such as presentations by winners of teaching awards or CTL or OERF funding. Such discussions, especially those spanning academic ranks and



disciplinary expertise, would strongly complement mentoring from the Chair and Associate Chair UG, and help individuals and groups meet ongoing challenges in course design and delivery.

Response by the Department of Biological Sciences:

These presentations are on-going, although based on this report it is clear that DBS could ensure that departmental members are made more aware of upcoming events. Typically, the FoS invites all teaching award winners to present in a Faculty sponsored symposium. Further, DBS is well represented (usually at least one presenter most years) in the Centre of Teaching and Learning Festival of learning. Further, the Centre of Teaching and Learning provides on-going workshops (see above), which are led by experts in the field.

Response by the Faculty of Science:

The Faculty of Science agrees.

Mentorship of junior women faculty could improve career success and retention.

Response by the Department of Biological Sciences:

DBS has a mentorship program in place for all junior faculty. An improved mentorship framework, with an emphasis on the retention and success of underrepresented groups, is a priority for both the FoS and DBS in the future.

Response by the Faculty of Science:

The Faculty of Science agrees. The Faculty of Science is developing mentoring best practices for departments in the Faculty of Science.

Encourage faculty engagement in reviewing evidence from disciplinary specific educational literature of new ideas for teaching and to further improve student learning.

Response by the Department of Biological Sciences:

DBS will encourage faculty to review disciplinary specific educational literature, for example by sharing links to relevant literature in our monthly newsletter.

Response by the Faculty of Science:

The Faculty of Science welcomes this initiative.

Consider the notion of a DBS colloquium on teaching or new pedagogies to encourage engagement in educational scholarship.

Response by the Department of Biological Sciences:

DBS will consider the notion of a colloquium on teaching that would encourage educational scholarship.

Response by the Faculty of Science:

The Faculty of Science welcomes this initiative.

DBS faculty should use every opportunity to learn from colleagues who are not always older and may be among non-academic staff.

Response by the Department of Biological Sciences:

DBS faculty and staff are actively engaged in the FoS teaching and learning sessions. They are both participants and presenters. These sessions are promoted in the DBS newsletter.



Response by the Faculty of Science:

The Faculty of Science agrees.

The Dean of the Faculty should consider holding frank, open discussions with DBS faculty about future renewal, recruitment, and leadership succession in view of university restructuring and budget changes, and with a goal of increasing the diversity of the faculty complement in DBS.

Response by the Department of Biological Sciences:

We agree that faculty renewal and leadership succession is critical to the success of undergraduate programs.

Response by the Faculty of Science:

The Dean will initiate discussions with the DBS leadership team to develop a messaging plan for bringing these issues to DBS faculty, to be followed by one or more townhall-style meetings to conduct discussions about the challenges and opportunities presented by UofA for Tomorrow with respect to renewal. At the same time, frank discussions will also be held with DBS faculty about building a more cohesive department and building on recent success with diversification

Consider engaging mentorship from virtual symposia on biology education and new course delivery; many research conferences include an educational forum, and online discussions can be a valuable resource.

Response by the Department of Biological Sciences:

We will consider this recommendation moving forward. This year UBEA (Undergraduate Biology Educators of Alberta) and ABLE (Association of Biology Lab Educators) conferences were run virtually. UBEA had great DBS attendance and ABLE had a record number of DBS registered. Festival of Teaching and Learning (CTL) is remote this year as well.

Response by the Faculty of Science:

The Faculty of Science welcomes this type of professional development amongst its faculty and instructional staff members.

Program Environment

DBS should ensure that non-academic staff members are treated as integral to the department's course/program delivery and culture.

Response by the Department of Biological Sciences:

DBS will continue to ensure that we treat non-academic staff members as integral to program delivery. Non-academic members are members of Courses and Curriculum. Further, they have been involved in working groups for both program learning outcomes and BSc Renewal.

Response by the Faculty of Science:

I agree that this is something that should be actively encourage, but I have no unique insights through the FoS lens.

The Faculty and DBS need to ensure staff renewal and succession planning are sufficient to sustain course/program delivery and graduate TA instruction, and find ways to establish better institutional memory for use of future staff.



Response by the Department of Biological Sciences:

DBS has endeavored to sustain program delivery despite staff turnover and reductions by retaining key elements of institutional memory through onboarding, cross training and elevating talent from within the Department where and when appropriate.

Response by the Faculty of Science:

Building a rich library of policy documents and best practices will ensure a strong basis for ensuring ongoing quality in program delivery. As part of the onboarding process, an intensive and consistent mentoring program for teaching staff and TAs is essential. Importantly, FoS is undertaking an initiative to build an inventory of the mentoring methods used in the various departments, with a goal of creating a shared community of practice that departments can draw from to optimize the professional development of all academic staff, and this could provide a scaffold for some of the planned activities in DBS.

The Faculty of Science should increase the number of student advisors.

Response by the Department of Biological Sciences:

With University restructuring, it is unclear how student advising will look moving forward.

Response by the Faculty of Science:

With UofA for Tomorrow, advising is being transformed. The Faculty of Science firmly believes that timely access to appropriate program and course advising is a crucial student service that needs adequate funding and staff.

DBS should find ways to target communications to particular student cohorts, in an effort to improve timely messaging to students.

Response by the Department of Biological Sciences:

Excellent point. DBS will continue to coordinate communications with the FoS to ensure that students receive timely messaging (and are not receiving the same message multiple times).

Response by the Faculty of Science:

The Faculty of Science is a strong proponent at the university for better communication with particular student cohorts, and will continue to advocate on this issue. We will continue to work with different units to ensure more timely and targeted communication with less duplication.

Additional Notes from Department/Faculty

(Any additional notes can be added here.)



Graduate Program Review

Programs: Biology MSc & PhD

Date of review: March 16-18, 2020

Reviewers: Allen Moore, University of Georgia; Chair; Michael Deyholos, University of British Columbia, Okanagan Campus; Bradley Kerr, University of Alberta

Program Strengths

The nationally and internationally recognized graduate programs offered by the Department of Biological Sciences are successful and vibrant. The quality of students attracted is high and the outcome for those students is very successful. The students are clearly engaged and proud of their association with University of Alberta.

Recommendations

Teaching and Learning Environment

Develop a more unified program of coursework/curriculum that exposes students to areas outside their specializations, and fosters interaction amongst students pursuing different specialties.

Response by the Department of Biological Sciences:

A comprehensive overview of all graduate student courses offered within DBS and across the University will be undertaken to help categorize the variety of current grad-level coursework available to our students. The completion of the QA report has already identified all courses that are approved for credit in our current specializations. However, to unify the coursework/curriculum and to broaden the scope of available courses to all graduate students, reducing the number of programs is required and something that has been recommended by the QA review committee. To achieve the specific goal of unifying graduate course curriculum, general categories of available grad-level courses will be generated based on their content and learning objectives (i.e., statistical analyses, molecular genetics, microbiology, etc.). This task will be overseen by a Graduate Program Steering Committee responsible for advising the Department regarding graduate program changes focused on core items including coursework, curriculum development, EDI, and enhanced cohesion of our current graduate program.

Response by the Faculty of Science and/or FGSR:

FGSR supports a review of the department's existing graduate programs and proposed refocusing of core course offerings that service them. This will provide clarity for students on requirements/timing of milestones, and facilitate academic success and times-to-completion.

Reduce the number of programs to as few as one MSc and one PhD. Some flexibility is needed to allow for specialization, but there is also strength in having students take a common core and experience seminars outside their own sub discipline.

Response by the Department of Biological Sciences:

This recommendation aligns precisely with the top priority of foundational changes required for our graduate program. Our self-study clearly indicated that it is time to reduce our current seven MSc/PhD specializations down to one or perhaps two general graduate programs.



These programs will be developed around the core research themes within DBS. Based on the historical graduate student enrollments reported in our self-study, the department has two general, but not mutually exclusive research themes that could be categorized as macroscopic or 'large' biology (i.e. Ecology; ~50% graduate student enrollment) and microscopic or 'small' biology (i.e. Microbiology, Molecular Biology/Genetics, and Physiology), which accounts for the ~50% of our graduate enrollments. Strengths in Systematics & Evolution plus Plant Biology also exist in our Department and these disciplines shift between the 'large' and 'small' biology themes. Based on our own QA report suggested outcomes reinforced with recommendations of the review committee, it is now priority one that a Graduate Program Steering Committee be appointed and tasked with reducing the number of graduate programs in DBS. This major graduate program change must also be considerate of the recent overhaul of our undergraduate programs.

Response by the Faculty of Science and/or FGSR:

FGSR supports these efforts to simplify program specializations and refocus on the department's core strengths. FGSR is available to consult and facilitate these changes through the governance consultation and approvals pathways.

Student Experience

There should be a clear mechanism for supporting graduate students, including addressing issues such as mental health, conflict resolution, discrimination, and inequity. Resources should be easily accessed on or off campus, and obvious to all. Individuals involved should be trained and neutral.

Response by the Department of Biological Sciences:

This past year has been an eye-opener regarding the need for efficient and clear communications regarding access to graduate student support on all levels ranging from conflict resolution to mental health resources. A key priority of the graduate office will be to overview all available departmental, FGSR, and institutional resources and then generate a clear and concise FAQ combined with an operational flow chart containing all information and procedures to follow for these various levels of support. These resources are all currently available, but it has been recognized that there is no clear or concise Departmentally distributed document outlining easy, accessible, and hassle-free ways for our students to instantly and/or confidentially know where to go and what to do when they need help. This effort will work towards the recommend goal of clearly detailing all procedures, steps, contacts, and pertinent information, so that our graduate students are fully aware of all available support networks related to mental health, conflict resolution, discrimination, and EDI.

Response by the Faculty of Science and/or FGSR:

FGSR's supervisory initiatives, in partnership with departments and supervisors, will provide clear information on resources/offices available across campus so that graduate students are equipped at the start of their programs with the information they need to establish strong, positive working relationships, leading to improved student experience and academic success.

The department, with input from BGSA should develop a handbook (PDF) for graduate students that clearly spells out expectations for both the student and the supervisors, and provides a



clear path for completing a PhD in a maximum of 6 years and clear guidance on where to go for resolution of different types of conflict and struggles with mental health.

Response by the Department of Biological Sciences:

We note that, in alignment with this recommendation, institutional processes requiring documented communication around expectations that outline the graduate student-supervisor relationship, and the roles and responsibilities of each, are currently being adopted campus-wide as required parts of graduate programs. Several Supervisors in DBS have taken the lead on generating lab-specific roles and responsibilities documents as well as an on-boarding document that is reviewed and signed by both parties that clearly spells out expectations for the students and supervisors. We will procure examples of these documents from various supervisors and use these to establish a Departmental template that will be available on our forms page located on our departmental website. Also, in collaboration with the BGSA executive, we will review our current Graduate Student handbook and the FGSR-provided roles of the Supervisor document to derive updated versions of these handbooks that will also be posted on our webpage. Regarding the recommendations on conflict resolution and struggles with mental health, please refer to our responses for the previous recommendation.

Response by the Faculty of Science and/or FGSR:

As above, FGSR's supervisory proposals will formalize and bring transparency to existing requirements for student progress reporting, and the introductory first meetings to set out mutual roles, responsibilities, and obligations that are the foundation of the graduate student/supervisor working relationship. These proposals have received letters of support from the Sciences Graduate Student Associate Council as well as the Biological Graduate Students' Association.

Faculty and Supervision

A standing graduate steering committee should be formed, led by the associate chair for graduate education and reporting to department council. This committee should take a leadership role in active management and improvement of graduate education (e.g., curriculum development, attention to EDI, promotion of professional development) and cohesion of the graduate program. The committee should also have representation from disparate research interests, but these research interests should not be defined by the previous RIG structure. This committee should also have representatives from all faculty ranks and from the BGSA. We recommend that the committee membership recognizes the strength that diversity can bring to graduate training in any sub-discipline.

Response by the Department of Biological Sciences:

This is another foundational priority of our graduate office and one that overarches with all the former graduate program recommendations addressed in this responses document. Led by the ACG, and under the authority of the Departmental Chair, a Graduate Program Steering Committee with broad and representative membership will be established. As recommended, this committee will have no formal alignment with past RIG structure and will be populated with even memberships from our faculty at early, mid and late career stages (likely 2 member from each career stage). Two executive BGSA members will be asked to serve on this committee and one non-BGSA MSc and PhD representative as well. Finally, two standing members of our current graduate awards and admission committee will be asked to serve. Moving forward, this steering committee will be invaluable for completion of the five core recommendations provided by the DBS Graduate Program review committee.



Response by the Faculty of Science and/or FGSR:

FGSR supports the establishment of this committee. FGSR is also available as a resource for information at the institutional level on graduate student professional development programming, modifications to approved program requirements/regulations, and EDI projects that serve all graduate students.

Resources

None provided.

Additional Notes from Department/Faculty/FGSR

(Any additional notes can be added here.)