



FOR INFORMATION

PUBLIC

OPEN SESSION

TO: Academic Affairs Committee

SPONSOR: Professor Amrita Daniere, Vice-Principal Academic & Dean
CONTACT INFO: 905-828-3719, vpdean.utm@utoronto.ca

PRESENTER: Professor Heather Miller, Vice-Dean, Teaching & Learning
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DATE: October 21, 2019 for October 28, 2019

AGENDA ITEM: 5

ITEM IDENTIFICATION:

Reviews of Academic Programs and Units

JURISDICTIONAL INFORMATION:

Section 5.6 of our Terms of Reference states that the Academic Affairs Committee shall receive for information and discussion reviews of academic programs and/or units, consistent with the protocol outlined in the University of Toronto Quality Assurance Process.

GOVERNANCE PATH:

1. **Academic Affairs Committee [For Information] (October 28, 2019)**
2. Committee on Academic Policy & Programs [For Information] (October 30, 2019)
3. Agenda Committee of the Academic Board [For Information] (November 12, 2019)
4. Academic Board [For Information] (November 21, 2019)
5. Executive Committee of the Governing Council [For Information] (December 4, 2019)
6. Governing Council [For Information] (December 12, 2019)

PREVIOUS ACTION TAKEN:

No previous action was taken on this proposal.

HIGHLIGHTS:

This report will address the external reviews of academic programs offered in the Departments of Biology and Psychology. These reviews were hosted at UTM in October 2018 (for Biology) and January/ February 2019 (for Psychology). External reviews of academic programs are an important part of the academic planning process as it ensures the quality of our programs through rigorous and consistent assessment by peers.

For both external reviews the review teams were provided with the Terms of Reference; previous External Reviewer Reports and Administrative Responses; a Departmental Self-Study; Faculty CVs; UTM Degree Level Expectations; UofT Facts & Figures; UTM Divisional Academic Plan 2017; UTM Vision Statement 2017; UTM Academic Calendar; UTM Viewbook; UofT Domestic Viewbook; and the Tri-Campus Framework document.

During the two-day site visit, the Biology reviewers met with the Acting Vice-Principal Academic & Dean; Acting Vice-Dean, Teaching and Learning; Chair of the Department; Associate Chairs of the Department; Graduate Chairs of the Institute for Medical Sciences, Ecology & Evolutionary Biology, and Cell & Systems Biology; junior and senior research stream faculty; teaching stream faculty; emeritus faculty; CLTAs; undergraduate students; members of the undergraduate student society; graduate students; teaching lab technicians; technical staff; and departmental administrative staff.

In the Department of Psychology, the two-day site visit included meetings with the Vice-Principal Academic & Dean; Acting Vice-Dean Teaching & Learning; Vice-Principal Research; Chair of the Department; junior and senior research stream faculty; teaching stream faculty; sessional instructors and CLTAs; undergraduate students; graduate students and postdoctoral fellows; teaching lab technicians; and administrative staff.

FINANCIAL IMPLICATIONS:

There are no net implications for the campus' operating budget.

RECOMMENDATION:

This item is presented for information.

DOCUMENTATION PROVIDED:

Presentation on External Reviews;
Review Summary and Administrative Response: Department of Biology (2018);
Review Summary and Administrative Response: Department of Psychology (2019)



UNIVERSITY OF
TORONTO
MISSISSAUGA

Semi-annual Report: External Reviews of Departments and Programs Biology, Psychology, FSC

Heather Miller, Vice-Dean, Teaching & Learning
Academic Affairs Committee

October 28, 2019

External Review Process

- An internal self-study, using a standardized template, is prepared by the department chair after widespread consultation with faculty, staff, cognate units and students.
- The self-study discusses faculty research, teaching, administrative/ organizational structure, and internal/ external relationships in the context of a department's current academic programs and curricular alignment with DLEs and PLOs.
- After a two day site visit, external reviewers prepare a report for the Dean. Their report provides a detailed evaluation of programs and curriculum.

External Reviewers

- Selected on the basis of expertise in field and administrative experience
 - Typically try to strike balance between male/female and Canadian/ US reviewers
- Assist in determining the quality of the academic programs (design, deliver, innovation, etc.), make recommendations for improvement, and raise any significant areas of concern.

Response to External Reviewer Report

- External Reviewer Report is reviewed to ensure no factual errors.
- Final External Reviewer Report is submitted to the Vice-Provost, Academic Programs (VPAP). The VPAP Office provides a summary and formally requests an administrative response from the Chair and Dean.
- The review summary and decanal response shared with:
 - Academic Affairs
 - Committee on Academic Policy & Programs (AP&P)
 - Academic Board

Department of Biology

October 1 & 2, 2018

Chair: Joel Levine

Review Team: McGill University & Brandeis University

Major Findings - Positive Elements

Programs & Curriculum

- At the forefront of developing and maintaining a curriculum map
- Excellent program delivery, despite substantial enrolment increase in the past two years
- Significant and positive increase in undergraduate research opportunities in recent years

Faculty/Research

- Faculty dedicated to maintaining and advancing the department's teaching and research missions

Administration

- Outstanding administrative staff who are dedicated to the welfare of students and the support of faculty

Recommendations

Programs & Curriculum

- Continue curriculum mapping to review existing offerings and consider curricular simplification
- Increase TA support to offset difficulties caused by large enrolments
- Encourage student acquisition of quantitative and computational skills to increase employment prospects of UTM Biology graduates

Faculty

- Prioritize faculty hiring in the areas of theoretical biology and computation and systems analysis to address disciplinary gaps identified by the department

Administration

- Encourage steady and consistent leadership to ensure the department's to progression
- Resolve ongoing power issues to research wing

Response to Review

Programs & Curriculum

- Department to explore opportunities for support to develop/ improve curriculum mapping software to increase usability and access
- Dean's Office & Department to investigate reasons for low enrolment in particular programs through data analysis & student surveys
- Department to enhance online presence to promote student awareness of curriculum, experiential learning opportunities, and special initiatives

Faculty

- Department has prioritized faculty hire in quantitative and computational biology to bolster technical skills and numeracy acumen in curriculum

Administration

- Working committee has been formed to address power issues in building; a solution and action plan is being finalized

Department of Psychology

January 31 & February 1, 2019

Chair: Ashley Monks

**Review Team: Dalhousie University & University of
Minnesota**

Major Findings - Positive Elements

Programs & Curriculum

- Programs provide valuable experience for students and extremely strong foundation of research-based teaching
- Program is among a select few across North America providing hands-on research experience at every year of study
- Experiential learning opportunities include access to state-of-the-art labs and world-renowned researchers

Faculty/Research

- Stellar researchers in the Department, including recent hires

Administration

- Among the best research-intensive psychology departments in North America

Recommendations

Programs & Curriculum

- Offer more (and require some) standing lab courses in both the Major and Specialist programs
- Pursue plans to add a Neuroscience major, from existing specialist
- Increase graduate students' involvement in teaching and teaching-training, in addition to marking and proctoring

Faculty

- Streamline research and teaching duties of faculty; consider giving course teaching credit for undergraduate research project supervision on a rotating basis

Administration

- Given the department's current multiple building configuration, implement regular activities to bring members physically together more often
- Develop a strategic plan for the next 5-10 years

Response to Review

Programs & Curriculum

- Department currently introducing practicals to existing courses
- Increased lab sections in courses will yield additional opportunities for classroom/lab teaching by graduate students
- Proposal for a Neuroscience Major is being developed

Faculty

- Department and Dean's Office exploring options to provide teaching credit for research supervision that will alleviate faculty concerns around fairness and transparency while not jeopardizing current quality of curriculum and teaching

Administration

- Departmental retreat held in May 2019, with plans for additional more-focused retreats in near future
- Chair's Advisory Committee established to facilitate consultation with faculty and staff as well as build consensus on key departmental decisions

Forensic Science Program

One Year Follow-Up Report
Director: Tracy Rogers

Update

Establishment of an EDU

- Proposal for the Forensic Science Centre, an EDU:B, is currently in development

Faculty Complement Planning

- Recent teaching-stream hire in Forensic Toxicology, began July 1, 2019
- Forensic Epistemologist search currently underway, expected July 1, 2020
- Forensic Psychologist & Forensic Microbiologist planned for long-term

Curriculum Alignment & Planning

- Introduction of new forensic science specific courses to begin to provide FSC with increased autonomy in their own programs and curriculum (also in-line with their development as an EDU:B)
- Professional master's program to be considered after EDU:B is established

Space Planning

- Plans for the new 'Science Building' include FSC space on the first floor

UTQAP Review Summary

| | |
|---------------------------------------|---|
| Programs Reviewed: | Biology, BSc (Specialist, Major, Minor) Biology for Health Sciences, BSc (Major) Biomedical Communications, BSc (Minor) Biotechnology, BSc (Specialist) Comparative Physiology, BSc (Specialist) Ecology & Evolution, BSc (Specialist) Molecular Biology, BSc (Specialist) Paleontology, BSc (Major) |
| Unit Reviewed: | Department of Biology, University of Toronto Mississauga (UTM) |
| Commissioning Officer: | Angela Lange, Acting Vice-Principal Academic and Dean, UTM |
| Reviewers (Name, Affiliation): | 1. Professor Gregor Fussmann, Chair, Department of Biology, McGill University 2. Professor Eve Marder, Victor and Gwendolyn Beinfeld Professor of Neuroscience, Department of Biology, Brandeis University |
| Date of Review Visit: | October 1 – 2, 2018 |

Previous Review

Date: November 9-10, 2010

Summary of Findings and Recommendations

1. Undergraduate Programs

The reviewers identified the following areas of concern:

- Learning objectives and degree-level expectations not being fully met for most students
- Steep 62.3% increase in student:faculty ratio between 2004-05 and 2009-10
- Large class sizes with limited opportunities for writing exercises
- Limited opportunities for experiential learning due to lab space and equipment limitations

The reviewers made the following recommendations:

- Conduct a comprehensive review and revision of the undergraduate programs to better meet learning objectives and expected outcomes

- Consolidate courses with overlapping goals and/or content

Administration

The reviewers identified the following areas of concern:

- Insufficient space for teaching, research and socializing
- Outdated teaching equipment

The reviewers made the following recommendations:

- Further growth should be limited and/or additional faculty hired

Current Review: Documentation and Consultation

Documentation Provided to Reviewers

Terms of Reference; Department of Biology Self-Study, 2018; Previous Review Report and Administrative Responses; Department of Biology, Faculty CVs; UTM Degree Level Expectations, 2016; UofT Facts & Figures, 2016; UTM Divisional Academic Plan, 2017; UTM Vision Statement, 2017; UTM Academic Calendar, 2017-2018; UTM Viewbook, 2017-2018; UofT Domestic Viewbook, 2017-2018; Tri-Campus Framework.

Consultation Process

The reviewers met with Acting Vice-Principal, Academic and Dean; Acting Vice-Dean, Teaching & Learning; the Chair of the Department of Biology; the Associate Chairs of the Department of Biology; the Graduate Chairs representing the Institute for Medical Sciences, Ecology and Evolutionary Biology, and Cell & Systems Biology; junior and senior research stream faculty members; teaching stream faculty members; emeritus faculty; contractually limited term appointment instructors; undergraduate students; graduate students; departmental administrative staff; teaching lab technicians.

Current Review: Findings and Recommendations

1. Undergraduate Program

Unless otherwise noted, all bulleted comments apply to all programs reviewed.

The reviewers observed the following **strengths**:

- Objectives

- Department is at the forefront of developing and maintaining a curriculum map that helps to track course level objectives and assessments against program-level learning outcomes and informs about congruence with the DLEs; map is a powerful tool that can help detect shortcomings and gaps in the current curriculum
- Curriculum and program delivery
 - Courses adhere to program-level learning outcomes and modern principles of biology
 - Courses reflect the breadth and knowledge of teaching and tenure stream faculty, with particular strengths in neurobiology, in the biology of unicellular organisms and viruses, climate change, and ecology and evolution
 - Excellent program delivery, despite substantial enrolment increase in the past two years
 - Very strong Major in Biology; the Major in Biology for Health Sciences has been a successful recent addition
 - Significant and positive increase in undergraduate research opportunities in recent years
- Innovation
 - Successful addition of Health Sciences major and planned additional programs in this area
- Student engagement, experience and program support services
 - Undergraduate students are highly engaged, interactive and outspoken and appear largely satisfied with the quality of education they are receiving

The reviewers identified the following **areas of concern**:

- Curriculum and program delivery
 - Course prerequisites are unnecessarily rigid and rigorously enforced by the department
 - Foundational classes are often too large for even the largest classroom
 - Extremely high enrolment, including in many advanced courses
 - Specialist Program in Ecology and Evolution suffers from severe undersubscription
 - Major in Paleontology has sizable enrolment, but low graduation rates
 - Student:faculty ratios remain very high and could potentially act as a deterrent for both prospective students and faculty hires
 - Mapping exercise identifies computational skills as a key element missing in the curriculum, and graduate TAs confirm that many UTM undergraduates lack quantitative and computational skills
- Student engagement, experience and program support services
 - Undergraduate advising may be strained due to large student numbers and limited advising staff; unreasonable expectation placed on limited

advising staff to counsel full breadth of disciplines and career paths within department

- Student concern over rigidity of course requirements and late dismissal from courses where prerequisites are lacking
- Departmental undergraduate student association exclusive, and not connected with or representative of the undergraduate student body

The reviewers made the following **recommendations**:

- Curriculum and program delivery
 - Use curriculum mapping to consider the necessity of all existing courses and explore the possibility of curricular simplification
 - Evaluate long-term sustainability of programs with low enrolment and/or graduation rates
 - Increase laboratory and field courses if possible
 - Increase flexibility of course prerequisites and choice to benefit student experience
 - Increase TA support to offset difficulties caused by large enrolments
 - Consider offering more summer courses as a solution to the issue of high enrolment
 - Continue promoting opportunities for undergraduate research and encourage students to spend longer periods in a single laboratory where their work could result in being part of a publication
 - Use potential future faculty departures as an opportunity for flexible re-evaluation of course offerings
 - Encourage student acquisition of quantitative and computational skills to increase employment prospects of UTM Biology graduates
- Student engagement, experience and program support services
 - Address deficiencies in student advising, alumni tracking and help for students with mental health concerns; consider adding staff capacity
 - Adopt democratic rules of candidacy and appointment to office for the undergraduate student association, to better represent the student body and promote a collegial environment between students and departmental stakeholders
- Quality indicators – alumni
 - Track long-term outcomes of graduates (career paths, graduate education pursued) to help to assess whether the department is providing relevant training to students and to benefit future potential alumni fundraising

2. Graduate Program (n/a)

3. Faculty/Research

The reviewers observed the following **strengths**:

- Overall quality
 - Faculty dedicated to maintaining and advancing the department's teaching and research missions
- Faculty
 - Capable and engaged teaching stream faculty
 - Positive consideration of curriculum when making faculty hiring decisions

The reviewers identified the following **areas of concern**:

- Research
 - Challenging to maintain research excellence while supporting the undergraduate teaching mission in the face of high student enrolments and a large number of undergraduate programs
 - Teaching stream faculty lack direct access to their research portals to track grant expenditures
- Faculty
 - Self-identified disciplinary gaps among faculty complement include developmental biology, microbiology, conservation biology, biodiversity and computation and systems analysis

The reviewers made the following **recommendations**:

- Research
 - Grant teaching stream faculty direct access to research portals so that they can plan accordingly
- Faculty
 - Prioritize faculty hiring in the areas of theoretical biology and computation and systems analysis to address disciplinary gaps identified by the department

4. Administration

The reviewers observed the following **strengths**:

- Relationships
 - Outstanding administrative staff who are dedicated to the welfare of students and the support of faculty
- Long-range planning and overall assessment
 - Department is benefitting from the leadership and vision of the recently appointed chair

- Recently renovated teaching and research laboratories are well equipped and maintained
- Expert technical staff responsible for computing infrastructure for teaching and research

The reviewers identified the following **areas of concern**:

- Relationships
 - Departmental culture and structure on campus inhibits interdisciplinary teaching and research
- Organizational and financial structure
 - Building exists in permanent state of repair with frequent and unpredictable power outages negatively impacting continuity of research and teaching
 - Serious problems with the functionality of key services such as electricity, plumbing and HVAC
- Long-range planning and overall assessment
 - Department has suffered from lack of leadership continuity, with frequent chair turnover in recent years. This has negatively impacted intermediate and long-term strategic planning, curriculum development and morale among department faculty and staff
 - Departmental staff, while excellent, are over-tasked

The reviewers made the following **recommendations**:

- Relationships
 - Encourage interdepartmental interaction to strengthen interdisciplinary exchange with departments such as Chemistry and Psychology
- Organizational and financial structure
 - Encourage steady and consistent leadership to ensure the department's to progression

Administrative response—appended

October 2, 2019

Professor Susan McCahan
Vice-Provost, Academic Programs
Simcoe Hall
University of Toronto

Dear Professor McCahan:

We are writing to provide an administrative response to the External Review of UTM's Department of Biology, which was held in October of 2018. This Department includes programs in Biology, Biology for Health Sciences, Biomedical Communications, Biotechnology, Comparative Physiology, Ecology & Evolution, Molecular Biology, and Paleontology. Overall, the reviewers found that the Department was providing "a quality education from highly qualified and dedicated teachers that are, in most cases, also world-class researchers." The reviewers commended the Department's innovative approach to teaching and pedagogy, the growth of research opportunities, as well as the strong leadership and committed administrative and technical staff. This is a strong foundation for the Department to build on as they plan for the next five years and beyond.

Below you will find a brief discussion on specific areas raised by the external reviewers followed by an implementation plan identifying action items and timelines. Additionally, an administrative response from Prof. Joel Levine, Chair of Biology, which addresses departmental issues, is enclosed. Progress checks and monitoring of the implementation plan will occur through the Chair's Annual Report to the Dean. The next external review of the Department of Biology is scheduled for the 2023-2024 academic year, with a midway report submitted to your Office in 2020-2021.

The reviewers identified a number of curricular issues and encouraged mapping the curriculum to address gaps and overlaps, identify the best areas for hiring, and create flexibility in sequencing.

UTM Biology has been a pioneering department in the development of course curriculum maps at the University of Toronto. As the reviewers noted, they are now in a position to leverage their mapping work and apply it at the programmatic level. The department proposes to update their existing programs by identifying program-level expectations, including the skills and knowledge expected of graduates. Faculty within the units are typically best-suited for such work, as they know the material and the programs, and many departments make such projects a significant part of faculty workload assignments. At the Decanal Townhall for the Biology review (held on September 9, 2019), difficulties with access and usability of the departmental

curriculum map were raised, and the possibility of applying for a university grant or fund to develop curriculum mapping software was discussed. Biology was very keen to capitalize on such opportunities to continue to provide leadership and demonstrate innovation in this area. Recognizing this strength and expertise in Biology, the Dean's Office strongly supports these efforts. Departmental planning that is informed by curriculum mapping analysis is discussed below for issues of hiring and program gaps.

The reviewers noted that certain programs offered by the department have much lower enrolment or completion rates relative to the other offerings, and encouraged consideration of the viability of the Specialist in Ecology and Evolution and the Major in Paleontology.

As the Biology Chair's Response indicates, enrolment levels are obviously important, but there are complexities of student desires and career concerns that may be affecting their choices in non-obvious ways. The Dean's Office has encouraged Biology to try to understand why students are, in some cases, enrolling in large numbers in ecology, evolution, and paleontology courses but not the programs themselves; and in other cases, enrolling in the program yet not taking the required courses, and therefore not completing the program. The services of the analysts within the Academic Planning, Policy and Research Unit in the Dean's Office have been offered to help analyze existing data, as noted below, and the department is encouraged to undertake informal and formal surveys of their students around these points. The department is also undertaking a social media project to enhance student knowledge of the curriculum, including the programs noted by the reviewers and the areas they cover. Biology's existing Biocareers Project where ROP students interview alumni about their undergraduate experience may provide some helpful insights for enhancing student awareness of how their degree requirements translate into careers.

The reviewers encouraged student participation in research and lab experiences, and the expansion of field course offerings.

Biology offers a relatively large number of intensive experiences in research lab and field projects at present; for example, over 80 ROPs per year as well as a thesis and an internship course. Given the very large number of students enrolled in Biology programs, however, there is simply not capacity to provide these intensive research experiences to all students. To allow more students to gain direct field experience, in addition to increasing the number of field courses offered by UTM faculty, the Department plans to increase student awareness of their existing opportunities through the Ontario Universities Program in Field Biology (OUPFB), which provides students with relatively easy access to a wide range of field courses offered by multiple universities in Ontario.

The reviewers endorsed the creation of a strategic plan for research, hiring (both faculty and administrative staff), and curriculum for the next five years.

Biology has indicated that they would like to work with the Office of the Dean to create a long-term plan. They have already begun a long-term plan to address gaps in quantitative and computational biology in their program offerings, faculty expertise, and research efforts. The department emphasizes that this is not simply the addition of a new research focus; quantitative and computational biology permeates many aspects of the discipline and needs to be incorporated into the curriculum and hiring process from this perspective. They are already implementing curriculum changes at multiple levels of instruction, as noted in the Chair's Response, and have been approved for a new hire in this field. Their current goal is to ultimately hire a total of five faculty positions with this focus to bolster quantitative approaches from a systems perspective. The Dean's Office will expect to see and assess these requests during the forthcoming annual faculty complement planning cycles. In terms of staff hiring requests, the Director, Strategic Initiatives within the Office of the Dean will be consulted to assist with the normal review process for any staffing requests brought forward by the department.

The reviewers proposed a number of solutions for the unit and the campus to consider to address the impact of high enrolment, given its impacts on educational quality and potential faculty recruitment.

The department would also like to work with the Academic Planning, Policy and Research Unit within the Office of the Dean to evaluate various data relating to their student enrolment numbers from different perspectives, including but not limited to, student-faculty ratios overall and by sub-divisions, and potential ways of assessing student interest in various fields beyond simple program enrolment counts.

The reviewers identified some barriers to research excellence and collaboration and emphasized the importance of access to the research portal and the need to facilitate research.

Both the department and the Dean's Office see this comment as relating specifically to the problem of Teaching Stream faculty access to the University of Toronto research portal for management of grants received and application for ethics reviews. It is imperative that all permanent faculty be able to manage their grants properly, and the University obviously wishes to see that ethics reviews are held for research conducted by its faculty. We jointly hope that this access issue is solved soon.

The reviewers recommended urgent action to address building problems, as they impact the teaching and research quality and ability to recruit top faculty.

The dominant problem facing all Biology faculty and staff, and expected to become a greater problem with new faculty in computational biology, is the constant flux of power in the building, especially but not only due to construction. Facilities, Management and Planning, under the auspices of the CAO, and together with the Vice-Principal, Research, are assessing a range of models for power backup at the present time. This working committee is scheduled to meet again at the end of this month (September 2019) to determine the optimal strategy for resolution. The department prefers a model for a unit-wide power backup that would provide both uninterrupted and clean power at all times. Although recognizing the high cost of such a solution, department members pointed out the high cost to the university in research and faculty recruitment losses that have been incurred and will continue if power instability in their discipline continues. Depending on the solution that is ultimately implemented, completion of the work can take between a few months to over a year.

The reviewers encouraged minimizing any further leadership interruptions to facilitate stability within the department.

The department and the Office of the Dean are in agreement with this recommendation. The Chair is committed to developing a shared vision for the department, and continued regular departmental retreats may be helpful, as well as encouraging and recognizing junior and senior faculty who take on a range of leadership roles within the department.

Other issues raised by department:

Biology noted that unfortunately the reviewers did not include any discussion of the role of lab and greenhouse technicians in their assessment of teaching, in spite of the participation of these staff members in the review process. It will be important to include these staff in any assessment of TA and instructor teaching support needs.

Finally, the department would like to note their concerns over the increasing levels of mental health issues affecting students, and in turn their entire community of students, staff and faculty. They appreciate the university's new initiative on mental health and hope the effect on faculty and staff as well as students in the wider university community will also be addressed.

Implementation Plan - Department of Biology, UTM

The Department and the Office of the Dean, in consultation, will undertake the following approaches to enact positive changes:

Immediate Term (6 months)

- Identify program learning expectations/objectives for each undergraduate program offered. *[Department]*

- Begin process of identifying assessment methods in core/ foundational courses (including efficacy in measuring student achievement against identified program learning outcomes). *[Department]*
- Investigate funding options and opportunities to improve/ develop curriculum mapping software. Apply for available opportunities, as appropriate. *[Department, with support from the Dean's Office]*
- Begin analysis and assessment of enrolment and completion rate issues in Department (including low enrolment and completion rates in the Ecology & Evolution Specialist and Paleontology Major programs and faculty-student ratios). *[Department, with support from the Academic Planning, Policy & Research unit in the Dean's Office]*
- Launch search for two new faculty hires – one microbial biologist; one systems biologist with advanced computational and theoretical approaches. *[Department, with support from Dean's Office]*
- Submission of draft proposal for specialist program in Biology for Health Sciences to the Dean's Office. *[Department with the assistance of Program & Curriculum Officer, Dean's Office]*
- Continue promotion of Ecology, Evolution, Paleontology, and field courses to students via social media. *[Department]*
- Continue and complete development of Python modules; propose and implement resulting curricular changes to first year courses. *[Department]*
- Request assessment of need for new community development administrative staff member. *[Department, with support from Dean's Office and Human Resources]*
- Finalization of plans by Working Committee to resolve power issues. *[CAO and Vice-Principal Research]*

Medium Term (1-2 years)

- Complete process of identifying assessment methods in all courses. *[Department]*
- Identify areas/ courses where assessment methods may require additional review and revision. Develop new assessment methods in identified areas. *[Department]*
- Propose and implement curricular changes, as required, as a result of program learning outcomes and assessments review. *[Department]*
- Propose and implement new computational courses. *[Department]*
- As a result of in-depth analysis of the Ecology & Evolution and Paleontology programs, develop and implement strategies that may better appeal to undergraduates while still allowing for the achievement of program learning outcomes. *[Department, with support of the Dean's Office]*
- From results of previous analysis (above) of faculty-student ratios and other data, develop and implement strategies to manage impact of high enrolment rates within Biology. *[Department, with support of the Dean's Office]*
- If approved through the UTM complement planning process, hire new faculty with an emphasis on systems thinking to strengthen Biology's computational and quantitative work. *[Department, with support from the Dean's Office]*
- Review effectiveness of Python modules in first year courses in preparation for expansion into 200-level courses. *[Department]*


- Propose and implement curricular changes to introduce Python modules into 200-level courses. *[Department]*
- Pending governance approval, implement new specialist program in Biology for Health Sciences. *[Department]*
- Continue student outreach and community building through social media initiatives. This includes promotion of Ecology, Evolution, Paleontology, and field courses and opportunities. *[Department]*
- Completion of backup power system in Biology research wing. *[CAO and Vice-Principal Research]*

Long Term (3-5 years)

- Complete an informal curriculum/ program review to ensure alignment of recent curriculum changes to program learning outcomes. Propose and implement new curricular changes, as appropriate. *[Department]*
- Continue to pursue complement requests related to computational and quantitative hires, as desired. *[Department, with the support from the Dean's Office]*
- Propose and implement curricular changes to introduce advanced Python modules to specialist students, as appropriate. *[Department]*
- Assess effectiveness of new strategies to manage enrolment issues. Propose new strategies, as appropriate. *[Department, with support from the Dean's Office]*
- Continue student outreach and community building through social media initiatives. This includes promotion of Ecology, Evolution, Paleontology, and field courses and opportunities. *[Department]*

Please let me know if you have any questions about this response.

Sincerely,



Amrita Daniere
Vice-Principal, Academic & Dean



Heather M.-L. Miller
Vice-Dean, Teaching & Learning

UTQAP Review Summary

| | |
|-------------------------------|---|
| Programs Reviewed: | Behaviour, Genetics and Neurobiology, BSc: Specialist Exceptionality in Human Learning, BSc: Specialist and Major Psychology, BSc: Specialist, Major, and Minor |
| Unit Reviews: | Department of Psychology, University of Toronto Mississauga (UTM) |
| Commissioning Officer: | Amrita Daniere, Vice-Principal Academic and Dean, UTM |
| Reviewers: | 1. Professor Tara Perrot, Department of Psychology and Neuroscience, Dalhousie University 2. Professor Jeffrey A. Simpson, Department of Psychology, University of Minnesota |
| Date of Review Visit: | January 31 – February 1, 2019 |

Previous Review

Date: January 3-4, 2012

Summary of Findings and Recommendations

1. Significant strengths of the program:

- Integration of outstanding research programs with teaching, including research teaching at the undergraduate level
- Faculty members' exemplary ability to teach undergraduates not only empirically based causal reasoning, but also the process of laboratory research itself
- Department's grace and collegiality in handling enrolment expansion

2. Opportunities for program improvement and enhancement. The reviewers recommended that the program consider:

- Ensuring that the curriculum structure can accommodate larger enrolments
- Reviewing and revising admission requirements as planned to ensure sufficient student preparation in math and science
- Examining the adequacy of technical and administrative staffing resources to support teaching and research
- Reviewing space plans with respect to communal meeting areas and research labs that support teaching and research

Current Review: Documentation and Consultation

Documentation Provided to Reviewers

Terms of Reference; Department of Psychology Self-Study, 2019; Previous Review Report and Administrative Responses; Department of Psychology, Faculty CVs; UTM Degree Level Expectations, 2016; UofT Facts & Figures, 2016; UTM Divisional Academic Plan, 2017; UTM Vision Statement, 2017; UTM Academic Calendar, 2018-2019; UTM Viewbook, 2018-2019; UofT Domestic Viewbook, 2018-2019; Tri-Campus Framework.

Consultation Process

The reviewers met with the Vice-Principal, Academic and Dean; the Acting Vice-Dean, Teaching & Learning; the Vice-Principal, Research; the Chair of the Department of

Psychology, UTM; junior and senior research stream faculty members; teaching stream faculty members; sessional and contractually limited term appointment instructors; undergraduate students; graduate and postdoctoral students; departmental administrative staff; teaching lab technicians.

Current Review: Findings and Recommendations

1. Undergraduate Program

Unless otherwise noted, all bulleted comments apply to all programs reviewed.

The reviewers observed the following **strengths**:

- Overall quality
- Programs provide valuable experiences for students
- Extremely strong foundation of research-based teaching
- Objectives
- Course offerings are consistent with departmental objectives to provide both comprehensive and specialized programs
- Hands-on research participation opportunities align with the University's goals of incorporating research and experiential learning into the undergraduate experience
- Positive program name change to Neuroscience reflects faculty members' research
- Psychology programs are in line with University objectives and provide a broad overview of the discipline
- Admissions requirements
- Consistent with standards across Canada
- Increased admissions requirements since the last review to ensure students are prepared for rigors of the discipline
- Curriculum and program delivery
- Excellent breadth and depth of curriculum
- Variety of research and experiential learning opportunities in the form of Research Opportunity Programs (ROP), Individual Research Projects (IRP), and undergraduate student theses
- Positive decision to remove major in Exceptionality in Human Learning, while continuing to offer the specialist
- Innovation
- Experiential learning opportunities include access to state-of-the-art labs and world-renowned researchers
- Quality indicators – undergraduate students
- Program is among a select few across North America providing hands-on research experience at every year of study
- Student ratings are consistently higher than average
- Quality indicators – faculty

- Faculty complement increased from 24 to 27 since 2012, allowing for increased opportunity for student ROPs, IRPs, and theses

The reviewers identified the following **areas of concern**:

- Objectives
- Faculty members identified a discrepancy between the University's mission to increase Psychology program enrolments vs. the high standards and requirements of the UTM Psychology programs
- Curriculum and program delivery
- High number of courses offered each year
- Faculty are concerned about balancing conflicting expectations of research productivity and increasing amounts of undergraduate supervision
- Innovation
- Faculty feel overwhelmed by the number of institutional initiatives aimed at enhancing the undergraduate experience
- Student engagement, experience and program support services
- Maintaining the overall quality of undergraduate students while faced with declining enrolments is a concern for the department
- Lack of clarity regarding the division of advising between the first-year course coordinator and the undergraduate advisor/coordinator; advisor/coordinator is over worked
- Quality indicators – undergraduate students
- Declining enrolment in recent years, despite class size increases instituted in 2011

The reviewers made the following **recommendations**:

- Objectives
- Develop a strategic plan to effectively balance the desire for larger student enrolment with the unique requirements of each of these programs
- Admission requirements
- Consider removing the minimum cGPA requirement for enrolment in the Minor program, and lowering this requirement for the Major program, to increase overall program enrolments
- Curriculum and program delivery
- Reduce annual third-year lecture course offerings; offer some on a biannual basis
- Amend the existing Research Design and Analysis in Psychology II course to better articulate design and methodology content. Make this course required for all Major and Specialist students, to provide foundation for third-year lab courses
- Offer more (and require some) standing lab courses in both the Major and Specialist programs

- Convert some current third-year lecture courses to labs with a hands-on element, to increase experiential learning opportunities without substantially increasing faculty workload
- Pursue plans to add a Neuroscience major, which will likely increase enrolment; collaborate with Biology on shared courses and research opportunities as the program grows
- Innovation
- Investigate new innovations in instructional methods (e.g., flipped classroom)
- Assessment of learning
- Identify critical general skills being taught in courses; develop more refined course evaluations to assess whether relevant skills are being gained
- Student engagement, experience and program support services
- Increase communication with undergraduate students, including a ‘roadmap’ from the first to the fourth year
- Increase graduate students’ involvement in teaching and teaching-training, in addition to marking and proctoring
- Consider adding capacity in student advising and redistributing responsibilities

2. Graduate Program (n/a)

3. Faculty/Research

The reviewers observed the following **strengths**:

- Research
- Stellar researchers in the Department, including recent hires

The reviewers identified the following **areas of concern**:

- Overall quality
- Faculty are stretched too thinly with competing demands for research productivity and providing experiential learning for undergraduate students; disconnect between how faculty are evaluated and actual expectations for work in this area
- Faculty
- Increasing faculty complement will be difficult unless student program enrolments begin to rise

The reviewers made the following **recommendations**:

- Faculty
- Streamline research and teaching duties of faculty; consider giving course teaching credit for undergraduate research project supervision on a rotating basis

- Amalgamate sessional appointments into more stable limited-term appointments

4. Administration

The reviewers observed the following **strengths**:

- Relationships
- Congenial atmosphere among faculty and staff
- Long-range planning and overall assessment
- Faculty members are happy with recent excellent hires
- International comparators
- Among the best research-intensive psychology departments in North America

The reviewers identified the following **areas of concern**:

- Relationships
- Communication within the department, as well as with the Office of the Dean and other units, could be improved upon
- Organizational and financial structure
- Staff workload is problematic, particularly for the undergraduate advisor/coordinator who is performing some tasks that should be handled by course instructors

The reviewers made the following **recommendations**:

- Relationships
- Implement regularly scheduled activities to bring department members physically together more often, given the department's current multiple building configuration
- Improve communication between the Dean's office and the Department
- Expand relationship with the Department of Biology, especially as Neuroscience program is further developed
- Organizational and financial structure
- Improve staff resource management:
- Hire an undergraduate assistant, the norm for similarly sized Psychology departments
- Determine appropriate capacity of technical and financial personnel to support the programs and the department
- Consider appropriate work arrangements for the academic counsellor's assistant and the assistant to the chair
- Long-range planning and overall assessment

- Hire two research-stream faculty to replace retiring members within the PCL group
- Develop a strategic plan for the next 5-10 years, involving all relevant members of the department
- Seek approval for an additional hire once strategic planning is complete

Administrative response—appended



September 25, 2019

Professor Susan McCahan
Vice-Provost, Academic Programs
Simcoe Hall
University of Toronto

Dear Professor McCahan:

We are writing to provide an administrative response to the External Review of UTM's Department of Psychology, which was held in January-February of 2019. This Department includes programs in Behaviour, Genetics and Neurobiology; Exceptionality in Human Learning; and Psychology. Overall, the reviewers found the Department to be a strong unit that compares favourably to the best research-intensive psychology departments in North America and is able to carry out its academic and research missions. The excellent breadth and depth of curriculum, the unique focus on hands-on research, experience throughout a student's undergraduate program, and the high caliber of tenure-stream hires were highlighted by the reviewers. These features set a strong foundation for the Department to build on as they plan for the next five years and beyond.

Below you will find a brief discussion on specific areas raised by the external reviewers followed by an implementation plan identifying action items and timelines. Additionally, an administrative response is enclosed from Prof. Ashley Monks, Chair of Psychology, which addresses departmental issues. Progress checks and monitoring of the implementation plan will occur through the Chair's Annual Report to the Dean. The next external review of the Department of Psychology is scheduled for the 2024-2025 academic year, with a midway report submitted to your Office in 2021-2022.

The reviewers suggested a number of ways to facilitate sustainable levels of faculty engagement with teaching and research while ensuring continued student opportunities for research and experiential learning, including offering fewer/less frequent 300-level courses, and more lab courses.

Psychology plans to have their curriculum committee review course offerings on an on-going basis, with attention to the recommendation to offer fewer 300-level courses, balancing this with the need to maintain sufficient diversity in course offerings to meet program learning objectives and requirements. In terms of lab course and directed-research offerings, Psychology is in the process of introducing curriculum changes to add lab sections to existing courses, and has increased research opportunity program offerings. Support for these changes will flow

through the established channels at UTM (i.e. resource implications related to curriculum review and ROP Funding Requests via the ROPAPP).

The reviewers found that the participation of graduate students in the programs could be increased, and they encouraged finding ways to get graduate students more involved in teaching and teaching-training.

The planned introduction of practical instruction in existing courses is expected to increase the opportunities for classroom/ lab teaching for graduate students. Psychology could choose to explore some of the GEF-funded events and workshops introduced in other units that have successfully overlapped graduate and undergraduate interactions with visiting scholars, in addition to their recent successful graduate-focused workshops.

The reviewers also suggested that the faculty could receive course credit on a rotating basis for significant amounts of directed research.

While there was support for this suggestion among Psychology faculty, there are appropriate concerns about ensuring that a fair and transparent policy is created detailing conditions for any credit or release system. The department and the Dean's Office are in agreement that any system increasing reliance on LTAs may have negative impacts on course and program quality, so want to pursue options that would avoid this. Psychology proposes exploring options through their curriculum committee and through discussions with the Dean's Office for best-practice ideas. Examples drawn from other units include having students enroll in a research seminar course with an overall instructor, but with various faculty taking on supervision for sub-groups of projects within the course relating to their own specialties.

They also suggested offering an expanded research methods course, and capstone-like courses to further support undergraduate research opportunities, independent studies projects, and theses.

There is considerable discussion in Psychology about the nature of their 200- and 300-level research design and statistics courses, and the department intends to strike a sub-committee to their curriculum committee to focus on this topic. Capstone courses and independent studies, in relation to undergraduate research opportunities, are also under discussion as an intertwined part of the process of revising faculty credit for directed research, as mentioned above.

The reviewers observed that staff as well as faculty are stretched too thin and suggested evaluating the duties assigned to staff versus faculty and how those could be better distributed.

There are various aspects related to staffing needs in the department. The Psychology lab technician position was recommended for increase from 0.8 to 1.0 by the reviewers, and this has already been done. The change in workspace for the Assistant to the Chair recommended by the reviewers is underway, with a project request to modify the space to a private office being submitted in September (once construction drawings are complete). Psychology has suggested some changes to staff positions that will be evaluated within the Dean's Office (in conjunction with Human Resources, as appropriate) following the standard staffing review model currently in place at UTM. Expected changes to online syllabus systems at UTM may also help reduce the work done by the Undergraduate Counsellor in providing template syllabi and other tasks.

The reviewers encouraged the department to re-evaluate program admissions requirements in relation to their goals and potentially increase enrolment as a result.

Psychology is opposed to simply reducing admission standards until enrolment targets are met; rather, they propose ensuring that their admission standards are consistent with those of UTM more generally and also appropriate for the pedagogical goals for their students. The department does wish to undertake a long-term strategic plan relating to enrolment targets, in association with the Dean's Office.

The reviewers recommended developing ways to assess students' development of critical general skills.

The department recognizes that this recommendation relates to needed improvements in their learning objectives and curriculum mapping projects, in which they identify their goals for skills instruction. The reviewers' comments and suggestions will be considered more fully as the department undergoes curriculum alignment. Psychology further noted that while they find the use of student opinion surveys as a method of assessment of skill acquisition problematic, they do periodically survey their graduates to assess their perceived preparation for the job market.

The reviewers found that the department could improve its communication and collaboration, and found that the unit would benefit from the creation of a strategic plan to prioritize initiatives.

In alignment with this recommendation, the department held a retreat on May 31, 2019, at which some progress was made to articulate vision, goals and strategies, but Psychology felt that this single retreat was not sufficient and suggests having a series of more focused retreats in future. In the meantime, the department has committed to undertaking the following to help improve communication and collaboration within the unit:

- Increase practical instruction and experiential learning opportunities in existing courses to increase student engagement and contact with faculty and/ or graduate mentors;

- Invite sessional and LTA members to all faculty meetings involving undergraduate issues;
- Introduce an additional Associate Chair position, which will greatly aid in collaboration and consultation by involving more faculty in departmental and university matters;
- Establish an Advisory Committee to the Chair to facilitate consultation with faculty and staff as well as build consensus on key departmental decisions; and
- Continue monthly one-on-one meetings between the Chair and Dean.

As an additional point, Psychology notes that they plan to engage in the existing UTM processes for requesting LTAs and faculty as part of continuing and future complement planning. They note that they are currently approved to hire LTA instructors to cover faculty leaves, as well as two new faculty positions associated with retiring faculty in 2019. In the long term, they will continue to work on strategic planning for renewal and growth positions.

Implementation Plan - Department of Psychology, UTM

The Department and the Office of the Dean, in consultation, will undertake the following approaches to enact positive changes:

Immediate Term (6 months)

- On-going curriculum review of course offerings against program learning objectives and requirements (*Department*)
- On-going addition of practicals to existing courses (*Department, with assistance of Dean's Office through Curriculum Change and TA Rationale processes*)
- Strike a curriculum sub-committee to review 200- and 300-level research design and statistics courses (*Department*)
- Increase ROP offerings (*Department with support from Dean's Office, Experiential Education Unit*)
- Curriculum committee examines effectiveness of curriculum mapping and program learning objectives in assessment of skills in courses and throughout programs (*Department*)
- Lab technician position increased from 0.8 to 1.0 (*Dean's Office and Department*)
- First faculty retreat held May 31, 2019 to begin development of department strategic plan (*Department*)
- Begin inviting LTAs and sessionals to department faculty meetings (*Department*)
- Monthly meetings between Chair and Dean (*Department and Dean's Office*)
- Creation of new Associate Chair position (*Dean's Office and Department*)
- Hire LTA and two faculty positions (*Department and Dean's Office*)

Medium Term (1-2 years)

- On-going curriculum review of course offerings against program learning objectives and requirements, including development towards a new Major in Neuroscience in

collaboration with Biology (*Department, with assistance of Dean's Office through Programming and Curriculum*)

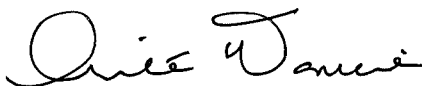
- Implement recommendations of curriculum sub-committee to review 200- and 300-level research design and statistics courses (*Department*)
- On-going addition of practicals to existing courses (*Department, with assistance of Dean's Office through Curriculum Change and TA Rationale processes*)
- Implement curriculum committee recommendations related to assessment of skills in courses and throughout programs (*Department*)
- Explore use of Graduate Expansion Funds (GEF) for events encouraging graduate and undergraduate engagement (*Department, with advice from Associate Dean, Graduate if desired*)
- Explore options for development of policy to recognize faculty commitment to directed-research projects (*Department with assistance of Dean's Office, including both Vice-Dean, Faculty and Vice-Dean, Teaching and Learning*)
- Change in workspace for Chair's Assistant to private office (*Facilities, Management and Planning and Department*)
- Evaluation of departmental staffing levels and needs (*Dean's Office and Department*)
- Hold additional faculty retreats to develop departmental strategic plan (*Department*)
- Request additional LTA and faculty appointments through normal UTM complement planning processes (*Department to Dean's Office*)

Long Term (3-5 years)

- On-going curriculum review of course offerings against program learning objectives and requirements (*Department*)
- Implementation of new Major in Neuroscience in collaboration with Biology (*Department, with assistance of Dean's Office*)
- Implementation of policy to recognize faculty commitment to directed-research projects (*Department*)
- Implementation of results of evaluation of departmental staffing levels and needs (*Dean's Office and Department*)
- Creation of long-term strategic plans for enrolment targets and associated faculty complement planning (*Department, in association with Dean's Office*)

Please let us know if you have any questions about this response.

Sincerely,



Amrita Daniere
Vice-Principal, Academic & Dean



Heather M.-L. Miller
Vice-Dean, Teaching & Learning