

Senate Question Regarding McGill's Strategy for Building an Interdisciplinary Learning Community
(Senators Greenspon, Rourke, Ibrahim, Stewart-Kanigan)

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What concrete measure are currently being undertaken to promote interdisciplinary collaboration and to break down barriers faced by students seeking to pursue interdisciplinary studies?

Has the "absence of institutional infrastructure to encourage, enable and foster interdisciplinarity" been addressed?

Has the lack of "recognition and reward mechanisms for tenure-track faculty members" for promoting interdisciplinary work been addressed?

What resources are the university planning to dedicate to achieve these stated goals of better supporting interdisciplinary programs and opportunities, and will the University develop a University-wide strategy for supporting interdisciplinary learning?

Response from the Provost:

The February 2014 Senate Open discussion on "Breaking down silos: interdisciplinary collaborations," to which this new set of questions refers, understood "'interdisciplinary collaboration" to include trans-, inter-, multi- or cross-disciplinary collaborations.' The same broad definition has been used here.

The encouragement of creative, interdisciplinary scholarship at all levels has long been a cornerstone of McGill's mandate. *Achieving Strategic Academic Priorities (ASAP)*, released in 2012, maps a five-year plan for institutional development that commits significant energies and resources to innovation in research and teaching. *ASAP 2012* (p. 18) specifically includes the broad goal of "developing and facilitating stronger connections across Faculties, Schools, Departments, Institutes, Centres and other academic units to enhance educational opportunities for students, interdisciplinary and interdepartmental research and teaching collaborations for faculty...". *ASAP* also affirmed the University's commitment to pursuing a 'cluster hire' model whereby certain searches would be conducted with a view to attracting researchers with similar interests across a variety of disciplines. Similarly, the 2007 and 2013 Strategic Research Plans both emphasized opportunity for interdisciplinary work, with the 2013 iteration noting a plan to "Encourage interdisciplinary dialogue and provide additional support for team approaches to addressing large, complex research questions" (15) as part of the goal to enhance the university's research capacity.

In line with these goals, for example, McGill supported the creation of the Institute for the Public Life of Arts and Ideas in 2009. IPLAI is a collaboration led by researchers in eight faculties and schools - Arts, Education, Engineering, Law, Management, Music, Religious Studies, and the Libraries – and promotes innovative, interdisciplinary research and teaching in the humanities that reorients the university toward the world. IPLAI Faculty Fellows offer team-taught, interdisciplinary undergraduate courses in the 'PLAI' series. This year, for example, IPLAI is offering a course on "Youth as Cultural Producers: Rethinking Education and Entrepreneurship," which will be taught by Fellows Jui Ramaprasad from the

Faculty of Management and Bronwen Low from the Faculty of Education. Faculty Fellows join a community of researchers from across the university, with opportunities for cross-disciplinary exchange of ideas and support for the development of collaborative, interdisciplinary research projects.

Approximately 12% of tenured and tenure-track faculty at McGill have joint appointments, with roughly one quarter of these appointments spanning two or more Faculties (i.e., 203 TT staff out of 1664 total; 156 joint appointments in the same Faculty; 47 cross-Faculty). Tenure review for all jointly-appointed assistant professors is undertaken by a single committee representing all relevant departments and/or faculties to ensure that the tenure candidate's dossier is considered as a whole and that none of our pre-tenure joint appointments are left in the position of having to satisfy competing expectations from multiple quarters. Reviews for reappointment and promotion are accomplished similarly. Both tenure and promotion files are assessed by external reviewers as well, with opportunity for the candidates to participate in the choosing of evaluators. Nearly half of the 203 professors with joint appointments have been at McGill for fifteen years or more, and just over half of all jointly-appointed faculty hold the rank of full professor.

Just for illustration, from Budget Book FY2015, we included:

- a) an interdisciplinary program envelope has been set aside for promoting interdisciplinary programs [\$0.8 million]
- b) other programs are being considered (e.g. Bioengineering, Digital Humanities, IPLAI, Public Policy)
- c) matching funds for the two CERCs: pain genetics and green chemistry
- d) UNIWeb is being explored as a tool for increased visibility and potential for collaboration across units.

With regard to "cluster hires", we have had some success in bioinformatics, social statistics, in previous rounds of academic appointments and in population studies most recently.

McGill researchers have also shown themselves to be world-class leaders in innovative, collaborative research, regardless of whether they have formal joint appointments. In the last four years, for example, nine faculty members have been awarded prestigious Partnership Grants from the Social Sciences and Humanities Research Council in support of ambitious, international projects that involve researchers from across campus and across the world. Each grant brings funding for faculty and student research in the millions of dollars. Grants have been awarded to faculty members in Arts (3), Music, Education (2), Social Work, Geography, and Environmental Studies, thus underscoring the breadth of 'Social Sciences and Humanities' research at McGill. CIHR has also recently awarded multimillion-dollar team grants to researchers working on genetics, neurology, neurosurgery, pharmacology, and family medicine. McGill is also the host to a large multi-disciplinary and multi-university Networks of Centres of Excellence (NCE)-funded BiofuelNet project.

The Centre for Interdisciplinary Research in Music Media and Technology (CIRMMT) is a FQRSC-funded world-class research facility based in the Schulich School of Music, with participation from researchers and students from Université de Montréal, Université de Sherbrooke, Concordia University, Ecole de technologie supérieure, INRS and Marianopolis College. McGill faculty from Music, Psychology, Information Studies, Mechanical Engineering, Electrical Engineering, Computer Engineering, Philosophy, Kinesiology, Communications, and Neurology all participate in CIRMMT's research programs.

At the graduate level, the University has implemented a very successful interdisciplinary graduate program in the neurosciences and established academic and administrative structures to support this and future interdisciplinary programs. The Integrated Program in Neurosciences is Canada's largest, with more than 180 affiliated faculty members from the Departments of Biology, Pharmacology, Psychology and Physiology as well as seven other McGill research centres. The program has more than 300 active students at the MSc and PhD levels. Interdisciplinary MSc and PhD programs in Biological and Biomedical Engineering are undergoing the approval process and interdisciplinary MSc and PhD programs in Quantitative Life Sciences are in the last planning stages.

Graduate Options in Bioinformatics, Chemical Biology, Computational Science and Engineering, Development Studies, Environmental Engineering, Gender and Women's Studies, Language Acquisition, Neotropical Environments, Psychosocial Oncology, and Social Statistics, as well as combined MBA-Law, MD-MBA and MSW-Law degree programs all offer students the opportunity to pursue research and training that transcends conventional disciplinary boundaries.

A candidate for a graduate degree may also, in consultation with his or her supervisor, put together an interdisciplinary thesis committee that includes faculty from other programs. In exceptional circumstances students wishing to engage in interdisciplinary research programs at the master's and doctoral levels may pursue *Ad Personam* programs with *joint supervision* by two faculty members in different department or faculties. In such cases, petition must be made to GPS, with written support from the proposed supervisors. Implicated departments or faculties would also be required to agree and adhere to a plan to share responsibility for financial support of the student. A single degree would be conferred at graduation, with both disciplines recognized.

As the FY2015 Budget Book recognized, the Faculty of Law's "undergraduate program provides the benchmark for an interdisciplinary, transnational perspective on law, governance and public policy, and is regarded as a model on the global scene."

Roughly half of McGill undergraduates earn their bachelor's degrees in three years (having begun their postsecondary studies at one of Quebec's CEGEPs), which does mean they have a shortened period in which to gain the necessary depth of knowledge and experience in their chosen major subject. While this constrains somewhat the possibility of more exploratory study at the undergraduate level, there are nonetheless a range of options available to undergraduates wishing to incorporate interdisciplinary study into their academic programs.

The undergraduate courses offered by IPLAI have already been noted. The Institute for the Study of International Development offers interdisciplinary honours, major and minor programs, with the possibility of pursuing a joint honours program along particular streams. The Institute for Gender, Sexuality and Feminist Studies offers a minor program in Sexual Diversity Studies with support from fifteen departments in five faculties. The Faculty of Arts also offers interdisciplinary major and minor programs in North American Studies and in Quebec Studies as well as minor concentrations in World Cinemas, the History and Philosophy of Science, and Catholic Studies. Of course, over 15 years ago, McGill School of the Environment was forged with efforts from three Faculties (Science, AES, Arts) and two others are now associated with it (Law, Engineering). McGill undergraduates have also had the option of pursuing a Bachelor of Arts & Science degree since 2005.

Other programs such as the BSc in Agricultural and Environmental Sciences invite students to design their own program of study by combining a major subject with one or more specializations. Science students may also pursue a minor in Interdisciplinary Life Sciences, for example, or a field minor in Interdisciplinary Tropical Studies, with 15 of the required 18 credits completed on site at the Bellairs Research Institute in Barbados.

With respect to resources allocation specifically: all allocations from McGill's budget are targetted to be in line with academic priorities, which have been outlined at length in ASAP 2012, the Strategic Research Plan, and other University documents, all of which are publicly available. Resource allocation at the level of academic programs is a matter for the Faculty Deans, determined in consultation with the Provost and other members of the senior administration.

There are always new and emerging needs as well as programs that may no longer be relevant. We must be willing to make choices about discontinuance as well as about creation. With the proliferation of major-minor options, the pathways to an undergraduate degree at McGill are quite numerous.

We can always do more and we can also always do better, but we must recognize the restraints imposed by resources, be they financial, physical, or based on the expertise available to us regarding interdisciplinarity.