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MEMORANDUM

ATTENTION: Senate

TEL

FROM: Jon Driver, Vice-President, Academic and Provost, and Chair, SCUP

RE: Faculty of Science: External Review Update for the Department of Molecular Biology and Biochemistry (SCUP 16-04)

DATE: February 16, 2016

TIME

At its January 20, 2016 meeting, SCUP reviewed the External Review Update Report for the Department of Molecular Biology and Biochemistry within the Faculty of Science. The report is attached for the information of Senate.

c: G. Myers

A handwritten signature in black ink, appearing to be "Jon Driver", is written over the signature line.



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MEMORANDUM

ATTENTION: Jon Driver, Chair, SCUP

TEL

FROM: Gord Myers, Associate Vice-President, Academic

RE: Faculty of Science: External Review Update for the Department of Molecular Biology and Biochemistry

DATE: December 21, 2015

TIME

The External Review of the Department of Molecular Biology and Biochemistry was undertaken in April 2012. According to the procedures established by SCUP, the Unit is required to submit an update describing its progress in implementing the Action Plan, which was derived from the External Review report, in the fourth year following the start of the External Review process. Please find attached this update, together with a copy of the Action Plan approved by Senate.

Based on this midterm report, my assessment is that the Department of Molecular Biology and Biochemistry has made substantial progress toward implementing the Action Plan.

cc: Esther Verheyen, Chair, Department of Molecular Biology and Biochemistry
Claire Cupples, Dean, Faculty of Science



DEPARTMENT OF MOLECULAR BIOLOGY AND BIOCHEMISTRY

MEMO

Chair's Office
SSB 8166

Tel: 778-782-4665
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mbbchair@sfu.ca

ATTENTION Glynn Nicholls, Director,
Academic Planning and Quality
Assurance

TEL

FROM Esther Verheyen, Acting Chair, MBB

RE External Review Update

December 18, 2015

The Department of MBB had the External Review in April 2012. We are sending our External Review Update as requested per October 22, 2015 memo. We apologize for the delay due to job candidate interviews that took place in November.

Cc: Peter Ruben, Acting Dean of Science
Encl.: External Review Update (progress report)

External Review Update for the Department of Molecular Biology and Biochemistry	
Action	Progress Made
1. Programming	
1.1.1 Undergraduate	
A. MBB will define an overarching vision for its program. As part of its participation in the SFU-wide effort to define learning outcomes for its courses and program, MBB will define key competencies for graduates of its program.	The MBB department has worked diligently to prepare program goals for our students that were passed by the Department in September 2015. In addition, learning outcomes have been defined for all MBB courses. Course content for our lower division courses has been examined in detail with the conclusion that our course learning outcomes are indeed closely aligned with course content. The same rigorous examination will be applied to upper division courses and their learning outcomes.
B. The MBB program will continue to have a set of required MBB core courses that provide foundational knowledge, while offering considerable choice and flexibility in its advanced courses that provide to students the opportunity to specialize and develop skills in critical reading of the literature, communications, and critical thinking. The appropriate mix and timing of courses will be assessed and adjusted. Guidance will be provided to students about thematic course selection.	MBB continues evaluate its course offerings at both the lower and upper division. Our second and third years courses have undergone an extensive, critical review processes and content modified when necessary. We are currently reviewing our fourth year course offerings, which aim to provide students with opportunities to read papers from the primary literature, develop both oral and written communication skills, and acquire critical thinking skills. We have also added a fourth year Capstone course which focuses on groundbreaking experiments and conceptual leaps in a number of areas of molecular biology and biochemistry We have an experienced and knowledgeable undergraduate advisor that provides students with advice on topics including course selection, course load, and pre-requisites for post-graduate programs.
C. MBB will promote efforts to inform its students of the importance of taking a full course load and will make adjustments to its course schedule to facilitate the timely progression of students through the program.	Our departmental undergraduate advisor counsels students in the importance of taking a full coarse load. The reality is that many of our students work part time and are unable to take 5 courses a semester so graduation in 4 years is not always feasible. However, our graduation times are consistent with the other departments in the Faculty of Science. We are constantly evaluating the frequency and timing of our course offerings to help ensure that our students can graduate in a timely

	manner. For instance, we now offer MBB331, our “gateway” third year molecular biology course in all three semesters. However, it is a challenge for MBB to offer appropriate courses in a timely manner for students. MBB now has the second highest number of majors in the Faculty of Science and core course enrolments are growing. Many of our Research Faculty have awards that limit their teaching. This has particularly impacted students pursuing a Genomics Certificate, because there are semesters when we cannot offer them any courses. Another issue with timely course offerings is the fact that we lost 1.5 lecturer positions that have not been replaced. We are very flexible with our students and will make accommodations such as course substitutions, whenever possible, to help students reach their graduation goal.
D. MBB will participate with enthusiasm in the creation of a Life Sciences Core Curriculum. MBB will promote the inclusion of genome sciences at all levels of its program.	A consultant was hired by the Faculty of Science to undertake curriculum mapping between life science departments as a first step towards the creation of a Life Science Core Curriculum. The final report has been submitted and MBB looks forward to progressing to the next phase. MBB is actively growing its “omics” program. A third year introduction to Genomics and Bioinformatics course is now offered, and in the fall, a computer based course specific to the Life Sciences will be introduced and will replace the current CS computer courses that do not serve our students as well.
E. MBB supports the proposed creation of a Life Sciences B.Sc. program that is flexible and appealing to students as an alternative to departmental major/honours programs.	MBB will continue to participate in the creation of this program and is currently waiting for the Dean of Science Office to move this initiative forward.
1.1.2 Graduate	
A. MBB will create a statement of expectations for graduate degrees, including anticipated timelines and expected accomplishments and competencies to be achieved. We will explore mechanisms to insure that students and supervisors understand their mutual responsibilities and are making progress in achieving their expectations.	For both the MSc and PhD programs, the degree requirements including time lines, required courses and expectations for research can be found on the MBB website (Graduate Program – Degree Requirements). Also described is the requirements and timeline for MBB806, the PhD Graduate Research Candidacy Examination. The annual progress report has also been revamped to insure more critical feedback from the

	student's committee members and flag any issues with their progress. Finally, a comprehensive student-supervisor agreement has been created. This agreement is to be discussed between graduate students and their supervisor(s), and signed by both parties prior to each committee meeting (introductory and yearly).
B. MBB agrees that the average completion time for its M.Sc. students is too long and that the recent upward trend for PhD students is troubling and should be reversed. Mechanisms will be explored and adopted to reduce completion times, though arbitrary termination of financial support for students making good progress is not contemplated. The MBB self study report documented the high success rates for MBB graduate degree completion and for post-graduation placements, indicating the success of the program.	A Graduate Student time line document is currently being drafted by the Departmental Graduate Studies Curriculum Committee (DGSC), which clearly states the optimal completion times for both the MSc and PhD degrees. This timeline will be included with a package of information for incoming students along with the MBB graduate handbook. The department has also instituted new timelines for MBB806, requiring that it is completed within the first six semesters. Finally, the new standards for the annual progress reports should also help address this issue. We acknowledge the importance of timely graduation for all our graduate students.
C. MBB already has defined and enforced timelines as well as standards for its PhD candidacy exam, but will consider requiring its completion by M.Sc. students prior to their transfer to the PhD program. MBB will review its standards for admittance to PhD candidate status.	M.Sc. students that entered the program in the Summer of 2015 or later must successfully complete MBB 806 prior to transferring to the PhD program. All PhD applications are diligently screened by the DGSC. The DGSC intends to continue the development and review of department policies that will further assess standards and criteria for acceptance.
D. MBB will develop strategies for improved recruitment of excellent students. It will endeavour to help excellent applicants find an appropriate supervisor able to provide sufficient long-term research assistantship support. MBB will continue to prescreen potential applicants to discourage applications from those unlikely to be accepted into the program.	MBB acknowledges the challenges in recruiting outstanding applicants and needs to continue to develop strategies to recruit excellent students. Our Graduate Program Assistant continues to prescreen applicants to insure that they will meet our admission standards.
E. MBB will explore ways to admit excellent applicants into the graduate program without being committed to a specific senior supervisor, allowing them to rotate through labs before selecting a suitable supervisor.	While a rotation program is an admirable goal, and would also be an incentive for recruiting excellent students, current sources of funding does not allow for this. We do not have training grants. However, we will actively continue to seek training grant opportunities in the future.

F. MBB will continue to have graduate student representation on relevant committees and working groups. It will continue to invite graduate student representation at MBB faculty meetings where graduate student issues will be considered. If a Departmental Council is created, it will include graduate student representatives.	Graduate student representation on relevant committees is already in place including representation on the DGSC.
G. MBB will explore ways to enhance the engagement of graduate students.	MBB has taken several approaches to enhance the engagement of graduate students. We hold a yearly MBB colloquium that fosters scientific interactions in which graduate students have opportunities to present their research (as either a poster or talk) and interact with both faculty and graduate students. Graduate students are also expected to attend our weekly departmental seminar. We also hold a payday social every second week, an event initiated and organized by the graduate students. The social encourages informal scientific interactions and discussion. MBB is also looking to institute a Graduate Student seminar series, where graduate students present their research to their fellow graduate students.
2. Research	
A. MBB has initiated a pre-review process for grant applications to help insure the competitiveness of its applicants (the program is inclusive of Associate and Adjunct faculty).	MBB continues to offer a formal pre-review process for grant applications and includes Associate and Adjunct faculty.
B. MBB will continue to proactively take advantage of its research strengths.	MBB is currently undertaking searches for two new Faculty members. We are targeting the areas of RNA biology to enhance our strength in nucleic acid biochemistry and Cancer Biology to complement our existing strength in cancer genomics, cell biology and cancer biology.
C. MBB will explore ways to take better advantage of its partnership with the Genome Sciences Centre at the BCCA. Genomics impacts nearly all of the research in MBB, so having this relationship with the GSC is clearly beneficial.	Since our external review, we have recruited a new faculty member who is also a Scientist at the Genome Sciences Center (GSC). He is a full member of the MBB department, and together with our half-time appointees (3) we have 4 faculty members that are affiliated with or part of the GSC. Our GSC associated MBB faculty members have been active as co-applicants in obtaining grant funding with MBB faculty and co-authoring papers. They have also developed new upper division courses

	that are well received by our students and expand the breadth of course offerings. We also have several adjunct Faculty from the GSC. Our adjunct faculty have participated in MBB graduate student thesis supervisory committees as well as guest lecturers in MBB courses. We will explore ways to continue to strengthen our partnership in the future.
D. MBB will consider other strategic partnership opportunities.	We are exploring a potential partnership with the BCCA with respect to the hiring of a new faculty member in the area of Cancer Biology. We will actively continue to seek out other strategic partnership opportunities.
E. MBB will develop a Business Plan to more effectively and strategically deploy its financial resources and specialized facilities, while maintaining and improving its infrastructure.	MBB will re-form its Research and Resources Committee which will develop strategies to replace or repair aging equipment, maintain service contracts, support graduate student initiatives.
F. MBB looks forward to the results of assessment and equitable re-allocation of space and other resources currently ongoing under the direction of the Dean of Science.	We have not received the results of a resource and space assessment by the Dean of Science. The MBB department however has just completed its own comprehensive space review.
G. MBB agrees that the VPR should monitor changes at agencies such as NSERC and CIHR and communicate them to departments for response. MBB would like to see more transparency about SFU-controlled opportunities such as the CRC and CFI programs.	SFU has a new VPR and we await new initiatives from her office in the coming year. MBB has been assured by our Dean that new faculty positions will be paired with CFI opportunities, and that appropriate faculty hires will be put forward for CRC Chairs.
H. MBB agrees with the ERC about challenges related to research grant funding and will monitor and adjust to changes.	We are in the process of recruiting for two new Faculty positions in the areas of RNA Biology, and Molecular and Cellular Mechanisms of Cancer. We will be looking to hire individuals with health related research programs that are competitive for current funding opportunities.
3. Administration	
A. MBB is blessed with some excellent staff. MBB agrees that its staff should receive regular feedback on their performance and that job descriptions should be updated to reflect changes.	Performance feedback and updating of job descriptions is on-going. This has been accomplished for approximately half the staff and we are committed to completing this process and insuring this review continues on a regular basis.

B. MBB agrees that grant funded research staff have very important roles and should receive SFU benefits. MBB urges SFU to explore ways to insure that SFU students and research staff receive full benefits allowed by granting agencies.	Since our external review, SFU has created policy R50.04, which allows for University Research Assistants to be paid statutory, non-discretionary, and vacation benefits from their Supervisors funding sources. However, University Research Assistants are defined as being employed to undertake full-time research duties for a period of two or more years. Thus, there are still issues paying benefits to short- term grant funded research staff.
C. MBB will continue to base assignment of TA duties on the needs of the courses to which they are assigned, while respecting the terms of the TSSU agreement and financial commitments to students.	MBB continues to use the stated criteria in the assignment of TA duties.
D. The MBB Undergraduate Curriculum Committee has directed instructors of lab courses to insure that safety issues are included in the lab manual and that students receive appropriate instruction and oversight in the safe use of equipment.	These safety instructions have been included in the lab manuals for all lab courses. In addition, the MBB & BPK Equipment Technician holds an orientation and building tour at the beginning of every semester to instruct students, (both undergraduates doing research as well as graduate students), in the safe operation of departmental equipment.
E. MBB will consider creation of some of the several new committees proposed by the ERC and more authority will be delegated to committee chairs.	We are in the process of re-instituting a Resources and Research Committee. In addition to oversight of departmental equipment and infrastructure, this committee will help to identify strategic opportunities. We have also designated our Departmental Undergraduate Advisor as the chair of our Departmental Undergraduate Curriculum Committee. We have not yet established a Departmental "Executive Committee" to advise the Chair. The Chairs of Departmental Committees have always been available to advise the Department Chair.
F. MBB will have scheduled monthly faculty meetings starting in the next academic year.	MBB has regularly scheduled monthly faculty meetings.
G. Associate members of MBB already serve on committees that oversee facilities located in MBB (e.g., microscopy and cell sorting). Associate members will be consulted about issues of concern to them, especially graduate studies.	MBB continues to actively consult and inform Associate members regarding issues that impact them.
H. MBB strongly endorses the recommendation that it have priority usage of SSB 8114 as a meeting room and	SSB8114 has been assigned to MBB for priority usage and the space is heavily utilized.

that lockable space be provided to the MBB Student Union.	The MBB Student Union as been provided with a lockable office.
I. MBB will work with advancement officers in the Faculty and at SFU to promote opportunities.	MBB has provided the Advancement office in the faculty with a description of two research areas in the Department related to human health (Infectious Disease and Immune System Research and Cancer Research) to be included in outreach to potential donors.
4. Working Environment	
A. It was gratifying to hear that the ERC found a mostly happy and cooperative departmental community. We will endeavour to maintain that harmony.	We agree that the MBB department has a collegial work environment and will strive to maintain that harmony.
B. We will build upon the regular social events that already occur (sponsored by the department or student organizations) and we will consider initiating a summer social event.	We continue to have regular social events such as the bi-weekly payday social, departmental Christmas party and student sponsored events such as BBQs. These events foster interactions between Faculty, Staff and students.
C. New faculty members are welcomed into the department and mentored. They are invited to attend weekly meetings of newer faculty and participate in monthly luncheon chalk talks. Most MBB faculty are on campus during normal working hours and have extensive interactions with their students, staff, and colleagues.	We are looking forward to welcoming two new faculty members in the next year. Our new hires will be officially assigned a mentor. They will also be invited to weekly faculty lunches and monthly faculty chalk talks.



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MEMORANDUM

ATTENTION Esther Verheyen
Chair, Department of Molecular Biology
and Biochemistry

DATE October 22, 2015

FROM Glynn Nicholls
Director, Academic Planning and Quality
Assurance

PAGES 1

COPY Claire Cupples
Dean, Faculty of Science

RE: External Review Update for the Department of Molecular Biology and Biochemistry

As per Senate guidelines, the Department of Molecular Biology and Biochemistry is to report on progress being made in the implementation of the Action Plan that resulted from its external review in April 2012. This report will be presented to SCUP and Senate for information.

Please submit your progress report, using the attached template, by Thursday, December 3, 2015. Also attached, for ease of reference, is the Action Plan that was approved by Senate on December 3, 2012.

Although your external review took place prior to the requirement to develop educational goals and assessment beginning with the 2013-14 external review cycle, any progress being made in your department in defining program and/or course level educational goals for academic programs would be welcome in your progress report.

Please contact me at 2-6702, glynn_nicholls@sfu.ca, or Bal Basi at 2-7676, bbasi@sfu.ca, if you have any questions or concerns regarding the external review update process.

Attach.

EXTERNAL REVIEW – ACTION PLAN

Section 1 – To be completed by the Responsible Unit Person e.g. Chair or Director			
Unit under review	Date of Review Site visit	Responsible Unit person,	Faculty Dean
Molecular Biology and Biochemistry	April 11-13, 2012	Lynne Quarmby	Claire Cupples
Note: It is <u>not</u> expected that every recommendation made by the Review Team be covered by this Action Plan. The major thrusts of the Report should be identified and some consolidation of the recommendations may be possible while other recommendations of lesser importance may be excluded. Should an additional response from be warranted it should be attached as a separate document.			
1. PROGRAMMING			
1.1 Action/s (description what is going to be done): 1.1.1 Undergraduate: A. MBB will define an overarching vision for its program. As part of its participation in the SFU-wide effort to define learning outcomes for its courses and program, MBB will define key competencies for graduates of its program. B. The MBB program will continue to have a set of required MBB core courses that provide foundational knowledge, while offering considerable choice and flexibility in its advanced courses that provide to students the opportunity to specialize and develop skills in critical reading of the literature, communications, and critical thinking. The appropriate mix and timing of courses will be assessed and adjusted. Guidance will be provided to students about thematic course selection. C. MBB will promote efforts to inform its students of the importance of taking a full course load and will make adjustments to its course schedule to facilitate the timely progression of students through their program. D. MBB will participate with enthusiasm the creation of a Life Sciences Core Curriculum. MBB will promote the inclusion of genome sciences at all levels of its program. E. MBB supports the proposed creation of a Life Sciences B.Sc. program that is flexible and appealing to students as an alternative to departmental major/honours programs. 1.1.2 Graduate: A. MBB will create a statement of expectations for graduate degrees, including anticipated time lines and expected accomplishments and competencies to be achieved. We will explore mechanisms to insure that students and supervisors understand their mutual responsibilities and are making progress in achieving their expectations. B. MBB agrees that the average completion time for its MSc students is too long and that the recent upward trend for PhD students is troubling and should be reversed. Mechanisms will be explored and adopted to reduce completion times, though			

arbitrary termination of financial support for students making good progress is not contemplated. The MBB self study report documented the high success rates for MBB graduate degree completion and for post-graduation placements, indicating the success of the program.

C. MBB already has defined and enforced timelines as well as standards for its PhD candidacy exam, but will consider requiring its completion by MSc students prior to their transfer to the PhD program. MBB will review its standards for admittance to PhD candidate status.

D. MBB will develop strategies for improved recruitment of excellent students. It will endeavor to help excellent applicants find an appropriate supervisor able to provide sufficient long-term research assistantship support. MBB will continue to prescreen potential applicants to discourage applications from those unlikely to be accepted into the program.

E. MBB will explore ways to admit excellent applicants into the graduate program without being committed to a specific senior supervisor, allowing them to rotate through labs before selecting a suitable supervisor.

F. MBB will continue to have graduate student representation on relevant committees and working groups. It will continue to invite graduate student representation at MBB faculty meetings where graduate student issues will be considered. If a Departmental Council is created, it will include graduate student representatives.

G. MBB will explore ways to enhance the engagement of graduate students.

1.2 Resource implications (if any):

Negligible costs for the changes under the control of MBB. There will be substantial time involvement for faculty in defining learning outcomes and developing new programs. A mechanism for funding a pilot scale rotation-based graduate program would need to be found, presumably involving the department and the Deans of Science and Graduate Studies.

1.3 Expected completion date/s:

Changes under the control of MBB will be implemented over the next 3 years; some cannot begin until after completion of the current 2 year planning cycle for teaching.

2. RESEARCH

2.1 Action/s (what is going to be done):

- A. MBB has initiated a pre-review process for grant applications to help insure the competitiveness of its applicants (the program is inclusive of Associate and Adjunct faculty)**
- B. MBB will continue to proactively take advantage of its research strengths**
- C. MBB will explore ways to take better advantage of its partnership with the Genome Sciences Center at the BCCA. Genomics impacts nearly all of the research in MBB, so having this relationship with the GSC is clearly beneficial.**
- D. MBB will consider other strategic partnership opportunities.**
- E. MBB will develop a Business Plan to more effectively and strategically deploy its financial resources and specialized facilities, while maintaining and improving its infrastructure.**
- F. MBB looks forward to the results of assessment and equitable re-allocation of space and other resources currently ongoing under the direction of the Dean of Science.**
- G. MBB agrees that the VPR should monitor changes at agencies such as NSERC and CIHR and communicate them to departments for response. MBB would like to see more transparency about SFU-controlled opportunities such as the CRC and CFI programs.**
- H. MBB agrees with the ERC about challenges related to research grant funding and will monitor and adjust to changes.**

2.2 Resource implications (if any):

For proposed changes by MBB, substantial faculty time will be involved especially for the pre-review of grant applications. Hopefully, the payoff will be improved success in external grant funding.

2.3 Expected completion date/s:

For changes under the control of MBB, some are being implemented this year, and others should be completed (or continuing) over the next three years.

3. ADMINISTRATION

3.1 Action/s(what is going to be done) :

- A. MBB is blessed with some excellent staff. MBB agrees that its staff should receive regular feedback on their performance and that job descriptions should be updated to reflect changes.
- B. MBB agrees that grant funded research staff have very important roles and should receive SFU benefits. MBB urges SFU to explore ways to insure that SFU students and research staff receive full benefits allowed by granting agencies.
- C. MBB will continue to base assignment of TA duties on the needs of the courses to which they are assigned, while respecting the terms of the TSSU agreement and financial commitments to students.
- D. The MBB Undergraduate Curriculum Committee has directed instructors of lab courses to insure that safety issues are included in the lab manual and that students receive appropriate instruction and oversight in the safe use of equipment.
- E. MBB will consider creation of some of the several new committees proposed by the ERC and more authority will be delegated to committee chairs.
- F. MBB will have scheduled monthly faculty meetings starting in the next academic year.
- G. Associate members of MBB already serve on committees that oversee facilities located in MBB (e.g., microscopy and cell sorting). Associate members will be consulted about issues of concern to them, especially graduate studies.
- H. MBB strongly endorses the recommendation that it have priority usage of SSB 8114 as a meeting room and that lockable space be provided to the MBB Student Union.
- I. MBB will work with advancement officers in the Faculty and at SFU to promote opportunities.

3.2 Resource implications(if any):

Costs associated with the recommendations under the control of MBB are negligible but will take time and effort. Provision of benefits for grant-funded research staff have cost implications, most or all of which would presumably be funded by research grants.

3.3 Expected completion date/s:

Actions will be initiated within the next 3 years, and most will be continuing.

4. WORKING ENVIRONMENT

4.1 Action/s(what is going to be done) :

- A. It was gratifying to hear that the ERC found a mostly happy and cooperative departmental community. We will endeavor to maintain that harmony.
- B. We will build upon the regular social events that already occur (sponsored by the department or student organizations) and we will consider initiating a summer social event.
- C. New faculty members are welcomed into the department and mentored. They are invited to attend weekly meetings of newer faculty and participate in monthly luncheon chalk talks. Most MBB faculty are on campus during normal working hours and have extensive interactions with their students, staff, and colleagues.

4.2 Resource implications(if any):

A small fraction of the MBB non-salary operating budget already supports programs that enhance the working environment of the department. This could be increased modestly for worthy events.

4.3 Expected completion date/s: Over the next three years.

Some increased work burden and possible small increase in operating costs to promote improved social interactions.

5.NA..... (OTHER)

5.1 Action/s:

-
-
-

5.2 Resource implications(if any):

5.3 Expected completion date/s:

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The above action plan has been considered by the Unit under review and has been discussed and agreed to by the Dean.

Unit Leader (signed) 	Date <u>AUG. 2, 2012</u>
Name Title <u>Professor and Chair</u>	

Section 2 - Dean's comments and endorsement of the Action Plan :

General: The report submitted by the External Review Committee is very complimentary about the quality of the faculty and staff in the Department of Molecular Biology and Biochemistry, the overall strength of the department's undergraduate and graduate programs, the excellence of faculty members' research and the environment of the unit. Likewise, the response of MBB to the report is positive and constructive. The department accepts most of committee's recommendations concerning operational issues, and provides reasonable, cost-effective proposals for making incremental improvements in the areas of undergraduate and graduate programming, research infrastructure and funding, departmental administration and overall working environment. Both the department and the appraisers agree on ways in which MBB can work with the Faculty of Science, the Faculty of Graduate Studies and the Office of the Vice President Research to enhance the success of the department as a whole and of its individual members.

Programming: The Faculty of Science whole-heartedly accepts the recommendations of the appraisers around the development of a core life science program in first and second year, and the provision of a so-called "General Science" degree program for those students who either do not meet the GPA requirements for admission into majors in our life science departments or whose career goals are less focused. The enthusiastic support of MBB for this proposal and its commitment to participating in the design and implementation of the proposed programs are most welcome. The development of learning outcomes for courses and programs will follow naturally from the inter-unit collaborations essential to such an initiative, and is aligned with SFU's goals for the NCAA accreditation process.

Many in the Faculty of Science would like to see a rotation option available for entering graduate students who have not yet chosen a supervisor. A program of this type is difficult to implement in the Canadian funding context – i.e. in the absence of government funded training programs – but we have started to explore the possibility of funding a pilot program through fund-raising.

Research: The terms of reference asked the appraisers to consider how MBB might capitalize on its relationship with BC Cancer, given that three (soon to be four) of its faculty members are cross-appointed with the Agency. The appraisers have chosen to address that issue only peripherally, as part of the section on Strategic Initiatives. MBB has responded in kind, with only passing mention of BCCA. The Faculty and the University have put significant resources into the BCCA relationship, and the area of cancer biology/genomics/bioinformatics, particularly in the context of personalized medicine, is a hot one with the potential to attract significant funding and prestige to SFU. I strongly encourage MBB to be proactive in seizing the opportunities that the relationship presents for research and training as a strategic priority.

	<table border="1"><tr><td data-bbox="961 1117 1107 1910">Faculty Dean <i>Clara</i></td><td data-bbox="961 442 1107 1117">Date <i>6 September 2012</i></td></tr></table>	Faculty Dean <i>Clara</i>	Date <i>6 September 2012</i>
Faculty Dean <i>Clara</i>	Date <i>6 September 2012</i>		