All members of the Department of Microbiology & Immunology Undergraduate Education Committee (UEC) have reviewed the External Undergraduate Program Review by Dr. Elizabeth Worobec from the University of Manitoba.

We appreciate and acknowledge the detailed and helpful analysis provided by Dr. Worobec, and also the participation of Dr. Mark Workentin in the review process. The UEC has discussed the external reviewer’s report in detail and provide below a response to the specific recommendations listed in the report. The comments from Dr. Worobec are quoted in italics. Please note that we have not responded to the Recommendations for the Senate Subcommittee on Undergraduate Program Review (comments 1 and 2) or to the Recommendations to Administration (comments 3 through 5).

**Recommendations:**

6. That the Departmental continues to hold yearly retreats to review and revise the undergraduate curriculum. Undergraduate students should be surveyed yearly using similar questions to those included in the Self-Appraisal to obtain feedback for discussion at retreats.

**Response:** The Department has held yearly retreats in 2005, 2006, and 2007 to specifically discuss the undergraduate curriculum, and a combined research/teaching retreat in 2008. The UEC felt that annual retreats for specifically discussing the Undergraduate program may be unwarranted but bi-annual retreats to evaluate both undergraduate and graduate teaching would be appropriate and the UEC will make this recommendation to the Department Chair.

Undergraduate student surveys will be conducted yearly to obtain regular feedback on the program. A new 10-15 question survey will be developed using both scantron compatible questions similar to the Self-Appraisal, and space to provide additional comments. This survey will be attached to class evaluations and depending on the response may be circulated by email.

7a. That the UEC follow through with introducing microbiology at the 1000 level, either as a suite of lectures in an existing course or develop a new introductory 1000 course.

**Response:** The committee felt that adding an additional 1000 level course is not realistic giving our current faculty complement and the current course requirements. In addition, none of the other BMSc programs offer first year courses. However, please consult our response to point 7b. The UEC will investigate the feasibility of providing 1-3 lectures in Introductory Biology to introduce 1st year students to our microbiology and immunology.

7b. That a required introductory survey course at the 2000 level, similar to 2500 Biology of Infection and Immunity, be introduced and the existing program restructured to
accommodate this change. In order to ensure all interested students can take such a course in a timely manner, offer the course in fall and winter terms and possibly in the summer or via Distance Education.

Response: We felt this comment identified a major deficiency in our program, as we currently lack an appropriate introductory course covering the scope of Bacteriology, Virology and Immunology, which is also a requirement for our Honors Specialization, Specialization, or Major modules. The UEC has agreed that MI2500B (The Biology of Infection and Immunity) represents an appropriate and well-received course that can and should be used as the introductory course to our various programs. The logistics of introducing this course as the introductory course are complex and will include alteration of many of our more senior courses, but will particularly affect MI2100A (Biology of Prokaryotes) and MI3300A (Introductory Immunology) which both have significant overlap in terms of content. We agree that the course should be offered in both terms to allow students as much opportunity as possible to take MI2500B. Once the Educator position has been filled, this individual will be instrumental in facilitating this change to our program and we expect to have this for implementation by September 2012.

8. That more flexibility be built into the HSP module, particularly in the 4th year with the introduction of new courses or adding courses from other units into a pool of courses. For example, give students the option to select three from a list of five 4th year courses.

Response: The UEC agree that 4th year Bacteriology, Virology, or Immunology cannot be options for our Honors students. Students do have the option of doing their Honors in the Biochemistry of Infection and Immunity and can then take more 4th year Biochemistry courses. Our committee will investigate appropriate courses in 3rd and 4th year Biology (e.g. Biology 3332A: Parasitology) that may be appropriate for our Honors program. The UEC will investigate our capacity to incorporate a clinically oriented course in Infection and Immunity at the 4th year level.

9. That undergraduate students be introduced to high profile laboratory equipment, such as found in research laboratories and institutes (e.g. Molecular Imaging Facility, Genomics Centre, Proteomics Centre) possibly as tours during lab courses (2100 and 3600) or tutorials in lecture-only courses.

Response: This is already incorporated into our 4th year Honors thesis course where students have access to a number of high profile equipment and also have taken the required safety courses and training to be able to use the instrumentation.

10. That the UEC review all team-taught courses on a yearly basis to assess effectiveness, as based on student surveys, and follow through with changes to course delivery by, for example, limiting the number of instructors to a maximum of four per course.

Response: This will be addressed at the bi-annual teaching retreats, as well as the new surveys that are being developed. The UEC will recommend to the Chair of the
Department to limit the number of instructors per course to a maximum of four.

11. That all teaching staff incorporate oral presentations, group seminars, literature evaluation discussions and/or tours of research facilities into tutorial sessions of existing courses.

Response: We recognize this is important. Many of these practices are already incorporated into some of our courses and this will be maintained or expanded. We will recommend at the teaching retreat that every course adopt at least one of these learning exercises.

12a. That all faculty members critically review the mode of evaluation used in undergraduate courses with the goal of moving away from multiple choice, short answer only tests and exams.

Response: We agree this is important for the evaluations of students and for their development. It may be difficult to implement it for our larger courses, but definitely our 4th year courses should move away from multiple-choice examinations. The UEC and Departmental Chair will ensure that only small parts of 4th year examinations include multiple-choice questions, if at all.

12b. That all faculty members strongly consider adding writing components (essay, term paper, assignment) to courses taught.

Response: We understand that students are looking for more variety in how they are evaluated. Each faculty will be asked to consider incorporating a writing component to their course as part of the evaluation.

13. That the Department show greater flexibility in allowing 4th year HSP students to take additional courses from other units which fall during scheduled research time for the Honours Research Project course. Students should not be discouraged from broadening their experience.

Response: Students can request special permission from the UEC Chair to take one 0.5 credit course that falls within the scheduled research time. Over the last year all students that requested to take a course during the allotted research time slot were granted this request. Thus, students are not discouraged from broadening their experiences at UWO. However, the Honors Research Project course is highly practical, and effective research does require dedicated and uninterrupted time in the lab. The UEC felt that students must also realize that this course is a major component of their 4th year and that the Honors Thesis Course must take priority over multiple electives.

14. That the UEC investigate the parameters of the Biochemistry HSP with respect to flexibility, course options, and seminar course offerings and implement these aspects into Microbiology and Immunology modules.
Response: Over the summer the UEC Chair will evaluate how the Honors Biochemistry program offers courses and options available to students, keeping in mind that the Department of Biochemistry has almost double the number of faculty (47 versus 27) but do not have double the number of courses. As in point #8 we will also investigate Biology courses that are appropriate for our modules.

15. That a critical evaluation of Intent to Register Sessions be undertaken with the goal of incorporating more useful information on admission requirements and course selections. The UEC should poll undergraduate students to determine the most effective use of these sessions.

Response: The BMSc Program holds information sessions for undergraduate students regarding the Intent to Register process. This year the BMSc Program also introduced two new information sessions targeting undergraduates in Years 1 and 2 to provide general information about the BMSc program and each Department. The Department of Microbiology & Immunology also presented a description of their individual programs. Both sessions were well attended, mostly by 1st year students. As suggested, we will also include a question regarding information about the Intent to Register Sessions.

16. The UEC review the evaluation process for the Honours Research course and moderate individual evaluation by supervisors to ensure all students are treated equitably.

Response: The UEC has discussed the current evaluation process for the Honors Research Course. Students receive a written evaluation and a mark out of 8% from their individual supervisor in early January. The timing of this evaluation is to provide feedback in the event the student is not achieving expectations. The remainder of the supervisor evaluation is worth 20% and is received at the end of the course. To our knowledge, there has never been a complaint regarding the supervisor evaluations and we decided that it is not appropriate to monitor individual evaluations. However, to more standardize the marking, specific descriptors will be provided to aid faculty in providing similar marks for similar work/achievement.

17a. That admission percentages for modules and programs be published (on the departmental website) for the past three years and updated each year.

Response: We will publish these averages on our Departmental website.

17b. That the Department better advertise program admission requirements and communicate to students that the quota of HSP students will vary yearly depending on the number of Honours Research Project positions available.

Response: Students are not always aware of the admission requirements and we will attempt to provide clearer information on our Departmental website and also provide links to the information on the BMSc website.
17c. That the Department Chair encourage all faculty to mentor HSP research course students and seriously consider increasing the number of positions in their labs.

Response: Currently, almost all members with active research laboratories routinely take Honors students into their laboratories. Many research laboratories take two and sometimes even three Honors students. The Department Chair will continue, as always, to encourage all faculty members with active research programs to mentor HSP students.

18. That the Department strives to instill a sense of community among the undergraduate students in the Microbiology and Immunology programs. Some suggestions include:
- September welcome event, Christmas parties and a farewell event in March/April.
- implementing a mentor system whereby senior undergraduate students are paired with junior undergraduate students.
- encourage all undergraduate students to attend guest seminars. Perhaps attach marks in relevant courses to attendance at specific guest seminars.
- involve undergraduate students in all recruitment events. This instills a sense of belonging and pride in their program.

Response: The UEC understands that some students do not feel part of the community, but the Department of Microbiology & Immunology already makes significant efforts to include Undergraduates within Departmental events. Our Department holds a welcome BBQ each year for our 4th year Honors class after students are matched into their respective laboratories. Our Department also holds an annual Christmas party to which undergraduates are invited and they often do attend. Our Department also holds a lunch for our graduating students and their families. In addition, our Honors students are always included on seminar announcements and there are no classes during the external seminar time slots. Undergraduates do occasionally attend but in most cases do not. Occasionally students have been required to attend a relevant external seminar and the attendance is enforced by making the seminar testable. For the last point, recruitment seminars are clearly listed and undergraduates are again welcome to attend. The “sense of community” really seems to vary from year-to-year with some classes being highly involved with Departmental and social activities, whereas other year’s students are less engaged.

19. That pre-lab or spot quizzes, worth a sizeable percentage of the lab mark, be introduced into both lab courses.

Response: The UEC agrees that this is a good idea. We will try to incorporate this into our laboratories.

20. That additional formal laboratory reports be introduced into both lab courses as a means to improve writing skills.

Response: We agreed that there were already opportunities to write laboratory reports.

21. That year-end written, and in the case of Microbiology & Immunology 2100, practical lab exams be introduced to both lab courses.
Response: The UEC agrees with this and will work towards implementation on this point.

22. That the Department Chair devise a three-five year plan for teaching assignments paying utmost attention to future retirements.

The Department Chair will devise a three to five year plan for teaching assignments with a focus on future retirements and current recruitment initiatives.