1. ASSESSMENT MEASURES EMPLOYED
Briefly describe the assessment measures employed during the year.

- What was done?
  1. Student performance in courses (grades).
  2. Completion of a written thesis containing original research that advances the field.
  3. Oral presentation of research and defense of the thesis before the thesis committee.
  4. Publication of research results.
  5. Quality of students admitted.
  6. Employment/Further Education.

- Who participated in the process?
  Program Director, Graduate Committee, thesis advisors of graduating students, and thesis committees of graduating students.

- What challenges (if any) were encountered?
  International students who have not completed LEAP level 4 seem to be having significant problems mastering the level of written English required to complete either the non-research or the research thesis. In the future, International students will be required to complete LEAP level 4 before admission to the program. Exceptions may be made for students with significant experience in the field. As an example, a student who has written papers for publication will not be required to complete LEAP level 4.

2. ASSESSMENT FINDINGS
List the objectives and outcomes assessed during the year, and briefly describe the findings for each.

Objectives:
- Employment as a practicing microbiologist/immunologist
- Entrance to a professional school (medical, dental, or veterinary) or residency program (for those with MD).
- Entrance to a doctoral (Ph.D.) program

Findings:
Measure 1. A review of the advising reports for each student in the program showed that all of the full-time students were in good standing (gpa of at least 3.0) and all full time students were
completing course requirements within 2 years. Two part-time students are currently on academic probation.

All graduating students completed the required core courses with an overall average of “B” or better.

All new students are required to complete 2 seminars in which they review published scientific research articles and make oral presentations. These seminars require that students develop fundamental knowledge of Microbiology and Immunology and fundamental skills of communication. The students who completed their degrees during this reporting period completed this seminar requirement. Students currently in the program are completing this requirement.

Measure 2. Four students completed their degree; Two of these students completed a research-based degree and the other two students completed a literature review. The Program Director and their thesis committees certified that their theses were acceptable in terms of writing, organization, and experimental results that advance the field.

Measure 3. The thesis committees certified that the graduating students passed the oral seminar and thesis defense. One of the International Students had difficulty writing an acceptable versions of her final thesis; she was referred to the Writing Center on campus and required an extra semester to complete the thesis.

Measure 4. Papers & presentations: Two students have made three presentations of their research. The dates of the presentations are given first and the name of the MS student making the presentation is boldfaced.


Measure 5. The Graduate Committee reviewed 44 applications for admission for the 2012/2013 academic year and accepted 11 students unconditionally and another 14 students conditionally. Conditionally admitted students are required to earn a “B” or better in the required courses in Immunology and Biochemistry & Molecular Biology. The average GPA of the accepted students was 3.4. The overall GPA of the applicant pool was 3.4.

Measure 6. One of the graduating students (Erica Carey) is working in a clinical laboratory at the Children’s Hospital in Cincinnati, Loren Koontz is currently looking for work in the field. Renee Albers is enrolled in the Biomedical Sciences Ph.D. program at Wright State University. Two of the second year MS students were been accepted into Ph.D. program and are currently enrolled in these programs. Another student who just completed her thesis revisions is employed in a research position. The fourth student is an International student who is currently back in Saudi Arabia and is applying for Ph.D. programs in the USA.
III. PROPOSED EFFORTS TO ASSESS QUANTITATIVELY TWO NEW LEARNING OUTCOMES:

A. GRADUATES OF THE MICROBIOLOGY AND IMMUNOLOGY MS PROGRAM WILL UNDERSTAND THE CONVENTIONS OF LITERATURE CITATION IN THE FIELDS OF MICROBIOLOGY AND IMMUNOLOGY. They should be able to critically evaluate papers read in their field of interest. At present, all M&I MS students are strongly encouraged to take BIO6080, Writing in the Biological Sciences, during their first year, a course taught by Dr. Barbara Hull. A rubric is being developed to quantitatively assess their mastery of basic scientific conventions and critical writing skills at the beginning of the course (first drafts of review papers and grant proposals) and at the end of the course. These scores should provide a baseline for the graduate students in the program.

B. GRADUATES OF THE MICROBIOLOGY AND IMMUNOLOGY MS PROGRAM SHOULD BE ABLE TO COMMUNICATE EFFECTIVELY ORALLY AND IN WRITING. A specific rubric evaluating the writing and the oral presentation skills of the students as they approach graduation is being developed. The advisor and the committee members will complete this rubric at the final defense. These scores should document progress in these essential skills during their two years in the program.