# Program Assessment Report (PAR)

**Microbiology + Immunology (MICB) Masters Degree**

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**ACADEMIC YEAR COVERED BY THIS REPORT:** 2021-2022

## I. PROGRAM LEARNING OUTCOMES

As a result of their learning experience, graduates of the M.S. Program in Microbiology and Immunology can: ● Recall, describe, and summarize fundamental principles in the fields of microbiology and Immunology. ● Organize field-specific information through effective and ethical information search, retrieval, and critiquing strategies. ● Interpret interdisciplinary material across multiple subjects in the life sciences and apply that information to the fields of microbiology and immunology. ● Communicate and present ideas effectively, both in written and oral form, and defend a scientific thesis. ● Formulate new scientific hypotheses and predict experimental outcomes through ethical reasoning and thorough integration of various perspectives and practices in the fields of microbiology and immunology.

## II. PROCEDURES USED FOR ASSESSMENT

### A. Direct Assessment

ASSESSMENT MEASURES EMPLOYED All five learning outcomes are measured by the following direct assessments: A. Completion of a written thesis document containing original research that advances the field. B. Oral presentation of research to the general public. C. Defense of the thesis before the thesis committee.mmittees

### B. Scoring of Student Work

For all five learning outcomes, students were evaluated by their thesis advisors and thesis committees and scored using criteria based on their track: 1. Research Track: Quality of research in the laboratory, written thesis document,

and oral defense 2. Non-research Track: Application of the scientific method to a current topic in the field, written thesis document, and oral defense

### C. Indirect Assessment

The following indirect assessments were used: ● Exit interviews with thesis advisor and/or thesis committee. ● Employment after graduation. ● Placement in a more advanced professional degree program, e.g. medical school, dental school, doctoral programs, etc.

## III. ASSESSMENT RESULTS/INFORMATION:

Learning Outcomes: ● Recall, describe, and summarize fundamental principles in the fields of microbiology and Immunology. ● Organize field-specific information through effective and ethical information search, retrieval, and critiquing strategies. ● Interpret interdisciplinary material across multiple subjects in the life sciences and apply that information to the fields of microbiology and immunology. ● Communicate and present ideas effectively, both in written and oral form, and defend a scientific thesis. ● Formulate new scientific hypotheses and predict experimental outcomes through ethical reasoning and thorough integration of various perspectives and practices in the fields of microbiology and immunology.

The program had eight (8) students complete the degrees over this reporting period, and they achieved the five learning outcomes as evidence by the following: ● Successfull completion of their programs of study. ● Satisfactory application of the scientific method to their thesis topic. . ● Satisfactory submission of a written thesis document. ● Satisfactory oral defense of their thesis topic.

Students acheived the learning outcomes in the following five areas as evidenced by successful completion of 30 credit hours with a GPA of 3.0 or greater and a successful defense of a thesis 1. Knowledge in the field of microbiology and immunology 2. Field-specific critical thinking 3. Application of interdisciplinary knowledge across multiple subjects in the life sciences 4. Effective oral and written communication 5. Ethical reasoning with regard to perspectives, policies and/or practices in microbiology and immunology

## IV. ACTIONS TO IMPROVE STUDENT LEARNING

Additional faculty members were recruited into the program to serve as thesis advisors.

## V.  SUPPORTING DOCUMENTS

Additional documentation, when provided, is stored in the internal Academic Program Assessment of Student Learning SharePoint site.