



Morehead State UniversityTM

Biology & Chemistry

Master of Science in Biology with emphasis in Regional Analysis and Public Policy

Advisor - Dr. Geoff Gearner, Professor of Biology

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Requirements for Admission

1. General admission to graduate study.
2. Completion of an undergraduate major in biology, environmental science, or an equivalent course of study.
3. Minimum GPA of 3.0 in all upper division biology courses.
4. Acceptable proficiency in chemistry, mathematics, and physics as determined by the biology graduate admissions committee.
5. Minimum GRE score of 400 for verbal and 400 for quantitative sections.
6. Minimum TOEFL score for international students is 525.

Requirements for the Degree (Thesis)

1. Satisfy University degree requirements.
2. Complete an approved thesis.
3. Complete a minimum of 34 semester hours of 600-level course work, including six hours credit for the thesis and one hour credit for biology graduate seminar.
4. At least 22 credit hours must be completed in biological sciences.
5. Take final written/oral examinations as determined by the student's advisory committee. The advisory committee must include at least one IRAPP faculty member (associate or affiliate).
6. Complete the 12-semester-hour Regional Analysis requirements.

7. Each student will be required to take at least one hour of biology graduate seminar.

Requirements for the Degree (Non-Thesis)

1. Satisfy University degree requirements.
2. Complete a minimum of 37 semester hours of 600-level course work.
3. At least 25 credit hours must be completed in biological sciences.
4. Each student will be required to take at least one hour of biology graduate seminar and three hours of research problems to demonstrate the ability to perform independent research under laboratory or field conditions.
5. Complete the 12-semester-hour Regional Analysis requirements.
6. Take final written/oral examinations as determined by student's advisory committee, which must include at least one IRAPP faculty (associate or affiliate).

Requirements for M.S. in Biology with RAPP emphasis

MATH 653 Concepts in the Design of Experiments

RAPP 610 Ideology and Public Development
in Appalachia

RAPP 620 Economic Development

RAPP 630 Graduate Seminar in Regional Issues

Program Competencies

1. All students are expected to demonstrate:
 - a. The mastery of course work considered fundamental to the training of a biologist. Required competencies may include the accumulation of knowledge in molecular biology, botany, zoology, microbiology, physiology, ecology, and evolution. A thesis-track student may elect to specialize in one of the listed areas.
 - b. The mastery of supplementary requirements selected to enhance the training of a biologist, including statistics and regional analysis.
 - c. The use of equipment and instruments required for biological research.
 - d. The ability to think analytically and have a thorough understanding of the scientific method. Students are expected to evaluate published research with respect to

experimental design, strengths and weaknesses of data, and validity of research conclusions.

e. The ability to write a formal proposal of their intended research projects. The proposal will consist of a literature survey, research objectives, materials and methods, significance, bibliography, and an itemized budget for the research.

f. The ability to design original experiments, collect and analyze data, and report the findings through oral and written presentations.

2. Students preparing for post-master's degree professions must develop those competencies required for admission to professional schools or Ph.D.-level graduate programs.

Assessment of Competencies

1. Students must pass both a written exit examination prepared by the BES departmental committee and an oral examination given by the student's graduate committee. It is expected that students attain an 80 percent performance level on the written exit examination and unanimous approval by the student's graduate committee concerning performance on the final oral examination and research component. Exams will include questions pertaining to regional analysis and biological principles. Students failing to reach the 80 percent performance level on the written exam may retake the exam one time after a seven-day period.

2. Students must pass with a 70 percent performance level of recommended courses in statistics and regional analysis.

3. Successful data collection using instruments in the student's research meets this goal.

4. In-class evaluation of journal research occurs in all graduate courses, and interpretation of scientific articles associated with the student's thesis or non-thesis research is evaluated.

5. All research proposals are evaluated by the graduate advisory committee.

6. Every student is expected to perform original research and present the data in a formal seminar (BIOL 671) setting to the faculty and students of the BES department. This oral seminar is graded by the faculty in attendance and the averaged score must be 80 percent or above. Students failing to reach the 80 percent performance level must give the seminar to their committees after a seven-day period.