2005-06 Major Assessment Profile
Department of Biological Sciences
Eastern Illinois University

1. **DEPARTMENT LINKS:**
    - Departmental Web Page: http://www.eiu.edu/~biology/

2. **QUALITATIVE INFORMATION**
    - Departmental Assessment Plan
    - IBHE Program Review outcome: N/A
    - IBHE Alumni Survey results
    - Undergraduate Student Survey Results
    - Accreditation reports/results: Not applicable
    - Active/hands-on learning opportunities for students:
      The Department of Biological Sciences has incorporated active learning and investigative laboratories into all of the core courses in the major as well as a large number of upper division elective courses. In addition, several courses require students to design an independent research project, collect and analyze data, and write a paper or give an oral presentation as part of the course requirements. Many of faculty have developed websites for course outlines, notes, reading materials, problem sets, quizzes, etc., and introduced technological enhancements to their courses through the use of WebCT, E-classroom, and on-line laboratory manuals. Students are also provided with a unique opportunity to utilize state of the art instructional technology and cutting edge field and laboratory equipment in their courses, internships, independent studies and research projects.

    - Student research/creative activity:
      In the last year, more than 75 undergraduate and graduate students participated in research and internship opportunities in the department. This includes 6 undergraduate students who successfully completed Honors Theses and graduated with departmental honors, and 13 graduate students who completed and defended their Master's thesis projects. Many of the projects designed by undergraduate students were partially funded through an Undergraduate Research Fund developed by the Department of Biological Sciences. Many of the graduate students were not only supported off external grants obtained by faculty but these students also applied for and received internal and external grants to support their research. A majority of these students gave oral and poster presentations at state, regional, national, and international meetings and a significant number were included as co-authors on peer-reviewed articles in scientific journals.

    - Faculty-student collaboration:
      The Department of Biological Sciences provides numerous ways for undergraduate and graduate students to collaborate with faculty through the integration of investigative laboratories into classes in the major. In these classes,

students assume the responsibility for designing research projects, generating and interpreting data, and giving oral presentations under the guidance of a faculty mentor. The faculty also provides opportunities for students to get involved in independent study projects and research funded by internal as well as external agencies including the Illinois Department of Natural Resources, the United States Department of Agriculture, The United States Fish and Wildlife Service, the National Institute of Health, and the National Science Foundation. Departmental faculty also work closely with students to provide work opportunities in research labs as well as internships that provide training for employment upon graduation.

- Strategies to improve P-16 teaching and learning:
  As part of the Technological Enhancements and Applications in Math and Science (TEAMS 2) and STAR, the department supports a Butterfly Research project that educates high school teachers on inquiry-based, field oriented projects that can be integrated into their science curricula. The department also supported the development of electronic educational activities for high school students using data from the Buell-Small Study. Biological Sciences completed the third year of participation in the Alternative Certification program offered through the College of Education and Professional Studies that provided direct instruction on biology content and pedagogy to four candidates in Summer 2005. The Department of Biological Sciences supervised these candidates during the 2005-2006 academic year with on-site visits each semester and, through this program, is helping to increase the number of qualified secondary science teachers in Illinois. The Department of Biological Sciences also plays an integral role in the B.S. in Science with Teacher Certification (Biological Sciences specialization) and the M.S. in Natural Sciences programs. The M.S. in Natural Sciences program was recently revised. The core of courses required for the major was changed, the number of concentrations was reduced from six to two, and the degree requirements for the two remaining concentrations were revised. To accommodate changes in core and degree requirements, course scheduling was restructured to provide access and opportunity for students to complete the new program in three years. These programs are reviewed in separate Major Assessment Profiles (as Science with Teacher Certification and Natural Sciences, respectively).

- Collaborative activities with business/industry:
  The Department of Biological Sciences requires an undergraduate internship as part of the degree requirements for the Environmental Biology option in the major. Students have participated in a wide variety of twelve week (480 hours) internships with agencies such as the Illinois Natural History Survey, the Illinois Department of Natural Resources, and the Missouri Department of Natural Resources as well as business, industry, and public and private agencies across the country. The department also placed graduate students in 12-month internships with the Illinois Department of Natural Resources and the Missouri Department of Natural Resources that not only train students, but place them in permanent

jobs after completion of the program and their Master's degree requirements. The department has also been an active participant in an IBHE Cooperative Program for the last ten years, and in 2005-2006, that program paid for half of the cost for 8 students to complete internships with Illinois industries and governmental agencies.

- Pass rates on any professional/ occupational licensure exams:
  Not applicable, but see the Major Assessment Profile for Science with Teacher Certification and Clinical Laboratory Sciences, respectively.

- Faculty Achievements:
  The faculty in the Department of Biological Sciences remain active in scholarship as evidenced through publications, acquisition of external grants, receipt of awards, and activity in scientific societies. In the last year the faculty in Biological Sciences published more than 25 peer-reviewed articles in scientific journals and gave more than 50 presentations at state, regional, national, and international meetings. Many of these publications and presentations included students as co-authors. Currently 12 faculty have research grants and contracts totaling more than $1,500,000 from agencies that include the National Science Foundation, the National Institute of Health, the United States Department of Agriculture, The United States Fish and Wildlife Service, the Illinois Environmental Protection Agency, the Illinois Department of Natural Resources, the Missouri Department of Natural Resources, and the City of Decatur. Many faculty are not only active on college and university committees but hold offices in state, regional, and national organizations such as the Embarras River Ecosystem Partnership, Grand Prairie Butterfly Club, Rare Plant Task Force, Illinois Academy of Sciences, Illinois Endangered Species Advisory Committee, Illinois Wildlife Foundation, Mycological Society of America, Sigma Xi, American Institute of Biological Sciences, Herpetologists League, and United States Geological Survey Breed Bird Survey and routinely review manuscripts and grant proposals for a wide variety of scientific journals and funding agencies (e.g., National Science Foundation, National Institute of Health, United States Department of Agriculture, etc.). In recognition of their accomplishments, the faculty has received numerous awards in the last year including the Graduate Dean's Award of Excellence, the Lida Wall Research Mentor Award, the Graduate Research Mentor Award, Use of Technology in Teaching and Research Awards, and several Achievement and Contribution Awards in teaching and research.

- Student Achievements:
  Not only have undergraduate and graduate students in Biological Sciences participated in research, but they have received numerous awards for their efforts. In the last year, 2 students won best oral or poster presentations at scientific meetings, 10 received travel grants to attend scientific conferences, 7 received research grants from the graduate school, and 7 students received grants from external agencies (e.g., Sigma Xi, Illinois Lake Management Association). In

addition, 2 students received Young Botanist Awards from the Botanical Society of America. Many of these students have been accepted into some of the finest graduate and professional schools (University of Illinois, North Carolina State University, University of Kentucky, University of California at Davis, Mississippi State University) across the country while others have gained employment shortly after graduation with the U.S. Geological Survey, the Illinois Department of Natural Resources, the Missouri Department of Natural Resources, and the Illinois Natural History Survey.

- Other:
  The Department of Biological Sciences hosts Darwin Day each February to celebrate Charles Darwin's birthday and the theory of evolution by natural selection. The week long celebration provides a unique opportunity for students as well as community members to better understand the impact of Darwin on their daily lives and society at large. The Biological Sciences Graduate Student Association developed a Seminar Series that brings in noteworthy scientists who meet with students and present a departmental seminar. In addition, two of the faculty in the department participate in a summer field course for students from Historically Black Colleges and Universities. The department has also been active in developing Study Abroad opportunities for students (e.g., a new Marine Biology and Ecology course) and is currently working on a Summer Field course that will provide students with a four week field and laboratory experience off campus. Finally, the department has continued to work hard to update facilities that support teaching (computer projection systems in classrooms, renovated computer laboratory) and research (a new research laboratory as well as modifications to two existing research labs).

3. QUANTITATIVE INFORMATION

- Program Data Spreadsheet
- Enrollment: Undergraduate: 510; Graduate: 47
- Degrees: Undergraduate: 73; Graduate: 11
- Faculty Statistics:
  - Total faculty headcount: 33
  - Total FTE faculty: 33.00
  - Full-time faculty: 33
  - Part-time faculty: 0
  - Number of faculty on leave: 2
  - Total tenured/tenure track faculty: 23
  - Faculty break down by rank:
    - Professor: 6
    - Associate: 12
    - Assistant: 5
    - Instructor: 10
  - Number with terminal degrees: 23
  - Total annually-contracted faculty: 10
  - Non-negotiated part-time faculty: 0

    - Gender: 11 females; 22 males
    - Diversity: 2
- Student Major Statistics
    - Full-time students: Undergraduate: 449; Graduate: 42
    - Part-time students: Undergraduate: 61; Graduate: 5
    - Diversity: Undergraduate: 69; Graduate: 1
    - ACT: 23
    - GPA: Undergraduate: 2.87; Graduate: 3.16
- Credit Hour Production Total: 16,396
- Discipline cost per credit hour by level: N/A
- Direct Cost Per Credit Hour Total: 150.81
- Freshman-Sophomore Retention Rate: 70%
- Average Actual Hours to Degree: 145