Biology Department
2006 Self Study Review
APC Report

2/8/2006

Respectfully submitted by:

Dr. Wayne Weber in conjunction with the Biology Department Faculty
Table of Contents:

<table>
<thead>
<tr>
<th>Section #</th>
<th>Section Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 1</td>
<td>Program Mission, Goals and Context</td>
<td>2</td>
</tr>
<tr>
<td>Section II</td>
<td>Assessment of Educational Goals and Objectives</td>
<td>2</td>
</tr>
<tr>
<td>Section III</td>
<td>Faculty</td>
<td>3</td>
</tr>
<tr>
<td>Section IV</td>
<td>Students</td>
<td>17</td>
</tr>
<tr>
<td>Section V</td>
<td>Program Evaluation</td>
<td>22</td>
</tr>
<tr>
<td>Section VI</td>
<td>Future Plans</td>
<td>25</td>
</tr>
</tbody>
</table>

Appendices:

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>II.</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>- Includes student biography and program assessment questions</td>
</tr>
<tr>
<td>III.</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>- Includes program assessment questions</td>
</tr>
<tr>
<td>IV.</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>Biology Department Scholarship Listing</td>
</tr>
</tbody>
</table>
Section I. Program Mission, Goals and Context:

A. Mission and Goals (Refer to Appendix I: Biology Program Assessment Plan)

B. Changes in Goals/Objectives

There have been dramatic changes in the format of the Biology program goals and objectives to coincide more with an emphasis on student learning outcomes. These changes were initiated by the development of a Biology department strategic plan in 2002-2003. The changes also correspond to recommendations by the Academic Planning Council (APC) for which this report was written and the Higher Learning Commission (HLC). Although the format is much different, many of the objectives are similar.

C. Relation with other academic programs in the UW-System

All UW-System four year institutions have a biology or biology related program. Many of these are quite similar and differ only in specific emphasis areas. The UW-Platteville program provides a broad range of learning opportunities in biology.

The UW-Platteville biology department does have specific articulation agreements with certain institutions. In UW-System, these would include the Biology department Cytotechnology program. This program is a “3+1” articulation agreement where students spend three years at UW-Platteville building a knowledge and skill foundation and then spend the last year at the School of Cytotechnology, State Laboratory of Hygiene, Madison, Wisconsin.

The department has also developed a program with another institution outside UW-System and is looking to develop others.

Section II. Assessment of Educational Goals and Objectives:

(Refer to the Assessment Plan in Appendix I)
Section III. Faculty

Faculty

Dr. Beth Frieders- Associate Professor
Year Hired: 1997
Areas of Expertise: Botany, Mycology, Systematics

A. Activities to improve teaching effectiveness and competence
- Scholarship of teaching and learning workshops, UWP campus: 29 Jan 2004; 27 Aug 2003; Aug 2002
- Involved in “How We Change” UWP campus workshop and grant, 2-4 Aug 2004; designed study to see if use of technology in the classroom improves student learning of Botany.
- Attended conferences/workshops:
  - The Scholarship of Teaching and Learning: a Powerful Tool for the Classroom, UW La Crosse, 22 April 2005 (co-presented with Dr. Wright)
  - “Critical Connections: Pedagogies of Engagement” 27 Feb 2004, Madison WI
  - Plant Molecular Biology and Genomics workshop, Madison, WI, 9-13 Aug 2004 – learned content and techniques to develop molecular biology labs for several courses.
  - “Engaging the Global Community: Best Practices in International Education” 24-26 Oct 2004 (co-presented talk)
  - The Collaboration Faculty Development Conference, Blooming IN, 15-16 Nov 2002 (theme = Prizing Diversity)
  - UW System Biology Conference, Madison, Nov 2001
  - UW System Women and Science spring retreat, WI Dells, May 2001
  - Faculty College, UW-Richland Center, 1-4 June 2000

B. Summary of professional activities
- attended Mycological Society of America meetings: July 2005; July 2004 (also presented poster); June 2002; July/Aug 2000.
- Presented an invited seminar to Plant Pathology Department, University of Minnesota, 8 March 2004
- article publications:
- Reviewed manuscript submitted to Mycologia journal, Oct 2004
- Reviewed grant proposal submitted to NSF, Oct 2003
- Mentor/advisor to 5 undergraduates doing independent research projects 2001-present.
- Consultant and Basidiomycota group co-leader in DeepHypha, an NSF funded international collaborative discussion and research coordination group; 2001-2006. Attended 5 meetings.
- Attended and presented poster at 7th International Mycology Congress, Oslo, Norway, Aug 2002
- Attended the Alexander H. Smith Lake States Foray annual meetings: July 2005; Sept 2004; Sept 2001 (co-sponsor of this event, also presented poster); Oct 2000 (presented seminar)

C. Honors and Awards
- Alliant Energy Underkofler Excellence in Teaching Award, 2003
- Outstanding academic advising award, college of BILSA, 2004
- Influential Educator Award, School of Education, Nov 2004
- Received following grants:
  o Faculty Professional Development Grant ($540), 2004
  o UWP Curriculum Improvement Fund ($3000) – 2001/2002
  o UWP Scholarly Activity Improvement Fund ($4000) – 2001/2002

D. Summarize of university/college/program and community service
- Each semester, serve on multiple committees at department, college and university levels. Highlights include:
  o On three search and screen committees (chair of one) to bring in new tenure track faculty to campus.
  o Faculty senate member 2002-2005 (vice-chair one year)
  o University Registration committee
  o Biology department Scholarship committee
  o member of the Reclamation Council
  o department representative on the Ag/Biology Alumni Board of Directors, 2000-present.
- 2004-present, board of director for local group – Platteville Community Arboretum
- co-advisor to student organizations: Beta Beta Beta national honor society, and Biology Club, 1997-2003
- worked with Dr. Kris Wright on project funded through Chancellor’s Opportunity Fund, to create information signs along the Rountree Branch stream for public education.
- Allied faculty member to School of Education – attend SoE retreats annually; assist in review student portfolios; advise education students; involved in admission interview process; coordinated the submission of a new minor program for state DPI approval.
- Responded to numerous public requests or questions about plants, fungi, and plant diseases.
- Member of the Mycological Society of America Student Travel Award Selection Committee, 2004- present

Dr. Jeff Huebschman- Assistant Professor
Year Hired: 2003
Areas of Expertise: Terrestrial Vertebrate Biology
   Activities to improve teaching effectiveness and competence
   - Teaching Excellence Center Workshops, UWP Campus
   - UW-System Faculty College at Richland Center, Wisconsin, 2004
B. Summary of professional activities

Publications

Grants
- Jeffrey J. Huebschman. Ectoparasites of small mammals in Southwest Wisconsin and zoonotic disease potential. UWP. SAIF grant. 1 July 2005 — 30 June 2006. $4000.00. Funded.

C. Honors and Awards
- Invited to join the Chancellor's Cultural Competency Committee.
- Recognized by Students Planning for Success, a support group for students with physical or learning disabilities.

D. Summary of university/college/program and community service

- Library Committee (Department)
- Search Committee for a tenure-track position in Geography (LAE College)
- Equity & Diversity Committee (BILSA College)
- Undergraduate Research Journal, co-editor (University)
- Honors Council Group (University)
- Pigeon Lake Field Station Advisory Council (University)

Recruitment & Enrollment
- Participated in Paths to Platteville, a minority recruitment event
- Helped register incoming biology majors during Pioneer Passage

Service Presentations
- “Prairie animals” and “Natural history and conservation of Franklin's ground squirrels”. Prairie Enthusiasts. Lancaster, WI (2004)
- “Natural history of woodland bats”. Tri-State Forest Stewardship Conference. Sinsinawa, WI (2005)
- “About bats”. YEPS (Youth Environmental Projects of Sauk County). Devils Lake State Park, WI. (2005)

Other
- Visited the University of the South Pacific in Suva, Fiji as part of a UWP team continuing to develop the university's study abroad program there. (2005)
- Led a workshop for any interested students (largely biology majors) on finding and obtaining summer job opportunities in biology (2005)
- Board member of the Southwest Chapter of the Prairie Enthusiasts. (Since 2004)

Dr. Sharon Klavins- Assistant Professor
Year Hired: 2005
Areas of Expertise: Botany, Evolutionary Biology
A. Activities to improve teaching effectiveness and competence
   - Attended the Opening Workshop for New STEM Educators sponsored by the UW Women and Science Program
   - Submitted grant proposal for Inclusion of Student-Centered Pedagogies in STEM Courses to UWS Women and Science Program
B. Summary of professional activities
   - Published two papers in 2005, another currently in press
C. Honors and Awards
D. Summary of university/college/program and community service
   University:
   - Member, Academic Appeals Committee
   - Faculty advisor, Alpha Phi Omega
   Program
   - Member, Scholarship and Professional Development Committees
   - Reviewed and selected research-grade dissecting microscope for faculty and student use
   - Re-organizing the UWP herbarium and departmental greenhouse
   Community
   - Member, Pioneering Your Future Planning Committee

Dr. Esther Ofulue- Associate Professor
Year Hired: 1999
Areas of Expertise: Molecular Biology, Biotechnology
A. Activities to improve teaching effectiveness and competence
   - Attended innumerable professional workshops and conferences including the UW-S Women & Science Program workshops, Women Studies, and OPID Conferences, and UWP sponsored Faculty Development activities, Bio(technology) Link workshops, Annual International Bioethics Forum, Annual Meeting of the Higher Learning Commission, and the annual Society for the Study of Reproduction (SSR) Conferences to learn to improve teaching and research
   - Developed the curriculum for the Molecular Biology (Biol. 4040) lecture and lab in 2001
   - Redesigned the curriculum for and have been teaching Biotechnology Seminar (Biol.4520)
B. Summary of professional activities

Publications:
5. Also made several presentations at workshops and conferences including at the UW-S Women & Science Program workshops, Women Studies, and OPID Conferences, and UWP Faculty Development Seminars and UWP Research & Career Day with Dr. Wayne Weber and with UWP students. Titles included:
   2. "Student Learning Outcome Based Program Assessment"
   3. Bridging the Gaps between Learning Assessment, Student Learning & Learning Styles: The Saga Continues
   5. "Student Learning, Retention and Learning Styles: A Model Assessment"
   6. "All hands-on Biology" Workshop for UWP-sponsored College 4 Kids Program.
   7. "Why Am I Me' at UWP-sponsored Expanding Your Horizon middle school.
   9. “The effect of Teaching Style on Student Learning and Retention”
   10. "Molecular Engineering of Plants" to Platteville Kiwani's club.
   12. “ Identification of DNA fragments using Complimentary Electrophoresis Techniques”
   13. "Leptin Induced Cellular Migration of Eoma Cells"

C. Honors and Awards
- Received Tenure (2005)
- Received the Lindahl Teaching Excellence Award (2003-2004)
- UW system Wisconsin Teaching Fellow (2002-2003)
- Promoted to Associate Professor (2002)
- Received the Minority Faculty Research Award from the UW system Institute for Race and Ethnicity (2001).
- Received the UW-System Women Studies Consortium Women of Color Award (2001)
- Appointed to various steering committees and Advisory Boards including:
  b. UWP Higher Learning Commission accreditation Steering Committee (2004 – to date)
  c. UWP PEEL /NFC Workshop Representative to study/promote Learner-Centered education (2004).
  e. UWP Teaching Excellence Center Advisory Board (2004 – to date)
  f. UW-System Women & Science Program Advisory Board (2002 - to date).
  g. International Institute for Human Factor Development (IIHFD) Advisory Board (2003 to date)
D. Summary of university/college/program and community service
- UWP Faculty Senate at-large representative (2004 to date)
- UWP Improvement of Learning Committee (2004 to date)
- UWP Faculty Professional Development Committee (2004 to date)
- Scholarship of Teaching & Learning (SoTL) Committee (since 2003)
- UWP Registration Committee
- Chair, Biology Departmental Review Board (2001-2004)
- College of BILSA Scholarship Committee (2000 to date)
- UWP By-Laws Committee (2002-2004)
- Provided numerous services to the community including presentations on bioethical issues of my research at schools, clubs and churches in Platteville and Madison areas.
- Participate in the UWP Community and University Partnership and TEC Faculty Development Program to Mentor a Southwestern High School science teacher.

Dr. Amanda Trewin- Assistant Professor
Year Hired: 2001
Areas of Expertise: Anatomy and Physiology, Reproductive Physiology
A. Activities to improve teaching effectiveness and competence
- Attended several workshops including but not limited to:
  - 2005 Human Anatomy and Physiology Society National Conference
  - 2005 Celebrating Diversity: UW-System Women and Science Program Spring Retreat
  - 2004 Stimulating student learning through critical thinking workshop (Carroll College)
  - 2004 Demonstrating Impact: UW-System Women and Science Program Spring Retreat
  - 2004 Advancing scholarship of teaching in the biological sciences (OPID and Center for Biology Education)
  - 2003 Case studies teaching in science (Carroll College)
  - 2003 Celebrate what works: UW-System Women and Science Program Spring Retreat
  - 2003 Faculty College
  - 2003 How we change (Integrating technology into PK-16 classroom; TEC)
  - 2003 Submitted/funded Opportunity fund: Interactive Physiology (coauthored with Wayne Weber)
  - 2003 Submitted Capital budget request: Anatomy laboratory package
  - 2002 Bioethics Institute (UW-Madison)
B. Summary of professional activities
- 2003-2005 Member of Human Anatomy and Physiology Society
- 2001-2005 Member of Society for the Study of Reproduction
- 2003-2005 Member of Federation of American Societies for Experimental Biology
- 12/2005 Submitted manuscript for publication: Hormone Release from Female Rat Hypothalamic and Pituitary Explants is not Altered by 2,3,7,8-Tetrachlorodibenzo-p-dioxin. (1st author)
- 2001 Publication: 2,3,7,8-Tetrachlorodibenzo-p-dioxin increases steady-state estrogen receptor β mRNA levels after CYP1A1 and CYP1B1 induction in rat granulosa cells in vitro. (1 of 4 authors)
- 2002 SAIF: Effects of TCDD on pituitary explants from female Sprague-Dawley rats
- 2001 Publication: Effects of dioxin, an environmental pollutant on mouse blastocyst development and apoptosis (1 of 6 authors)
C. Honors and awards
- 2004 and 2005 Nominated for the College of BILSA Outstanding Academic Advisor Award
- 2001 SSR Larry Ewing Memorial Trainee Travel Fund Recipient

D. Summary of university/college/program and community service
- 2005 Submitted Opportunity fund: Sharing the Microscopic World with Elementary School Students
- Worked with several students on independent research projects
- 2002 Department committee-Internship/coop Committee
- 2001-2006 Department committee-DRB
- 2002-2006 Department committee-Scholarship Committee
- 2001-2006 Department committee-BAC
- 2005 Department committee-Search and Screen Committee for Vascular Plant Biologist
- 2001-2006 College committee-Curriculum Committee
- 2002-2006 University committee-Animal Care and Use Committee
- 2005-2006 University-APC
- 2002-2006 Biology Club Advisor
- 2003-2006 Pioneering your Future Committee member
- 2004-2005 Hosted several UWP Children’s Center Visits to Department
- 2004 Submitted/funded Opportunity fund: Pioneering your Future (coauthored with Tammy Salmon-Stephens)
- 2002-2006 Ag/Biology Alumni Chapter member

Dr. Marilyn Tufte- Professor
Year Hired: 1968
Areas of Expertise: Molecular Biology, Biotechnology

A. Activities to improve teaching effectiveness and competence
- Prepared new and redesigned previous experiments in all lab courses
- Expanded ethics components in all courses
- Provided students opportunities to read and/or write on outside activities, self evaluations, current issues and personal bioethical dilemmas
- Allowed students choices in selection of course topics and discussions
- Stressed current events and impact on biology
- Helped establish learning opportunities at other institutions
- Attended numerous workshops and seminars on teaching effectiveness and advising

B. Summary of professional activities
- Reviewed pertinent chapters in recently published textbooks
- Permitted publication of electron micrographs
- On-going research on the effects of super cations on membrane transport in colon carcinoma. This research has resulted in three publications.
- Worked with several students on independent research projects
- Provided internships in lab maintenance and preparation
- Attended many scientific meetings, conferences, workshops, teleconferences, etc.
- Stayed current with the literature
- Membership in many professional organizations
- Worked with other departments to provide collaborative learning experiences for students
- Consulted with academia, industry and medical groups on microbial diseases, cancer diagnosis, treatment protocols, bioterrorism, CWD, avian flu, HIV and meningitis.
- Participated in the Community University Partnership Program

C. Honors and awards
- Submitted (with colleagues) proposals for campus funding of research projects (i.e. opportunity funds)
- Offered funding by Phoenix/Minerva Pharmaceuticals, Baltimore, for collaborative research on cations, radical inhibitors and anti-oxidants in cancer therapy
- Received an alumnus monetary gift
- Received gifts of equipment and lab supplies

D. Summary of university/college/program and community service
- BILSA Alumni Relations Committee
- Nominated many alumni for college and university awards
- Participated in fund raising activities
- Developed job shadowing experiences for students with area healthcare facilities
- Helped develop the Physical Therapy program articulation agreement with Clarke College
- Consulted with community members all over the nation on microbial and cancer issues
- Helped students connect with medical and graduate school programs

Dr. Wayne Weber
Year Hired: 1997
Areas of Expertise: Genetics, Anatomy and Physiology

A. Activities to improve teaching effectiveness and competence
- 8/31/05- Attended- Scholarship of Teaching and Learning. Sponsored by the College of EMS and Teaching Excellence Center.
- 4/8/05- Attended- Focusing on Teaching and Learning: Marking 20 Years of the Wisconsin Teaching Fellows/Scholars Program.
- 1/14/05- Attended- BILSA Inservice- International Education.
- 11/4-11/5/04- Attended- Seventh Annual Opening Workshop for New STEM Faculty.
- 10/22/04- Attended- Advancing the Scholarship of Teaching in the Biological Sciences.
- 3/9/04- Presented Advising Tips at the BILSA advising workshop
- 12/12/02- Attended distance education discussion entitled Curriculum Reform Success Stories in Science and Mathematics sponsored by the University of Wisconsin System Women and Science Program.
- 10/16/02- Attended- University Academic Advising workshop
- 10/2002- Attended OPID sponsored UW-System Department/Program Chair Conference
- 8/27/03- Attended- Teaching Excellence Center Workshop. Scholarship of Teaching and Student Panel sessions.
- 12/12/02- Attended distance education discussion entitled Curriculum Reform Success Stories in Science and Mathematics sponsored by the University of Wisconsin System Women and Science Program.
- 8/30/01- Attended- Conflict is not always fun but it can be fulfilling. BILSA Seminar.
- 8/29/01- Attended- Assessment of General Education. Fall Teaching Excellence Center Faculty and Staff Development seminar.
- 3/8/2001- Attended- University Academic Advising workshop
- 10/18/2000- Attended Academic Advising workshop.
- 10/26-10/27/2000- Attended Women and Science Conference and Workshop at the University of Wisconsin-Madison.
- 4/16/2000 Attended and presented speech on “Commitment and Challenges” at Phi Eta Sigma National Honor Society initiation Banquet. At this Banquet I was also inducted as an honorary member of this society.
- 1/12/2000- Attended BILSA inservice on Racism
- Delivered several presentations associated with the Scholarship of teaching and learning (see professional activities below)

B. Summary of professional activities

Workshops/Seminars
- 4/12/05- Attended- Klavins, Sharon. Reproductive Biology in Early Cycads: Is the Present the Key to the Past?
- 2/12/04- Attended- Wilson, Bill- Forensic science.
- 11/18/04- Attended seminar by the Wisconsin State Veterinarian Bob Ehlenfeldt.
- 1/16/03- Attended- Proposal Planning and Writing Workshop.
- 9/16/02- Attended MSA distinguished lecturer talk presented by Dr. Mickey Gunter. Health effects of inhaled dust: Idaho farmers, Libby miners, NYC firefighters.
- 1/17/02- Attended David Bauer seminar on grant writing.
- 2001 Worked with Troy Moris on a PURF funded research/community service project entitled “Canines as Future Preventive Medicine”.
- 2001 Consulted with Victor Vancleave, Senior Scientist/Laboratory Head of the Genetics Institute in Andover Massachussetts on the F and Z allotype distributions in Europeans and EuroAmerican populations.

Presentations
- 4/6/04- Weber, Wayne. Human Phylogenetics: How are we all related?
- 10/2003- Weber, Wayne; Ofulue, Esther. Bridging the Gaps Between Learning Assessment, Student Learning and Learning Styles.
Poster Presentations

Publications

Grants Funded
- 5/2003- $4000- Assessment Activity Fund- (with Ofulue, Esther). Bridging the Gaps Between Learning Assessment, Student Learning and Learning Styles.
- 12/2002- $4,100- Opportunity Fund (with Trewin, Amanda). Interactive Physiology.

Other Professional Activity
- Worked with multiple students on independent study research projects.

C. Honors and awards
- 2005- Nominated by student for Outstanding Academic Advising Award by student- I was not eligible because I have received the award in the last five years.
- 4/2003- Recognition as influential professor by academic student athletes.
- 10/2002- Phi Eta Sigma National Honor Society Leadership Award- Recognizes excellence in leadership as Phi Eta Sigma chapter advisor.
- 3/2002- Outstanding Professor in the field of Natural Sciences. Recognition by the Alpha Lambda Delta Honor Society. This prestigious honor is voted on by student members of the local chapter of this fine honor society.
- 4/2002- Phi Kappa Phi Excellence in Teaching Award. Recognition by the Phi Kappa Phi National Honor Society. This prestigious honor is voted on by student members of the local chapter of this fine honor society.
- 5/2002- Underkofler Excellence in Teaching Award. This prestigious award recognizes professors in the University of Wisconsin System for excellence in teaching.
- 9/2002- Outstanding Academic Advisor Award. This prestigious award recognizes excellence in academic advising by the University of Wisconsin-Platteville.
- 4/2001- Recognition as influential professor by academic student athletes
- 4/2000 Recognition as influential professor by academic student athletes
- 4/16/2000- Initiated as honorary member of Phi Eta Sigma Honor society in recognition of excellence in teaching

D. Summary of university/college/program and community service

Community Service
- 2004-2005- Conducted Cadaver lab tours for regional high schools, colleges and universities
- 2002-2003- Hosted area high school students in classes
- 2001-2002- Presented to children children from the UW-Platteville Children’s Center in the anatomy and physiology lab
- 2001-2002- Served as a consultant with home school group on a Toshiba/NSTA Explorivision Awards science project
- 2001- Worked with Troy Moris on a PURF funded research/community service project entitled “Canines as Future Preventive Medicine”.
- 2000- Consulted with Loras college on teaching a one year Anatomy and Physiology course.
- 2000 Consulted with regional High Schools on pre-chiropractic program and opportunities in chiropractic medicine.

Dr. Kristopher Wright
Year Hired: 2001
Areas of Expertise: Ecology, Freshwater Biology

A. Activities to improve teaching effectiveness and competence
- Selected as the UWP Wisconsin Teaching Fellow for 2006
- Invited panel member for seminar on International Education
- Invited panel member for conference: The Scholarship of Teaching and Service Learning: a Powerful Tool for the Classroom at UW-La Crosse.
- Invited presenter to special symposium on teaching at the 2005 annual meeting of the North American Benthological Society, New Orleans, LA.
- Attended UW-System’s Faculty College
- Attended all UWP Teaching Excellence Center seminars at start of each semester
- Attended UW-System Biology Conference, “Advancing the Practice of Teaching in the Biological Sciences through Scholarship”, Madison, WI.
- Attended 6th Annual Women in Science Workshop for New STEM Faculty
- Attended the conference “Teaching for Wisdom: Achieving higher order thinking in our graduates” sponsored by The Collaboration for the Advancement of College Teaching & Learning, Minneapolis, MN.
- Secured a 3 year, $15,000 commitment to fund UWP student internships on stream ecology from Harry and Laura Nohr Chapter of Trout Unlimited.

B. Summary of professional activities
- Published 2 peer-reviewed, research articles (as lead author).
- Created an educational DVD with Peggy Compton (UW Extension) and Kris Stepenuck (WDNR)
- Awarded over $31,000 in grants (including: UWP Opportunity Fund, UWP Karrmann Library Special Collection Development Fund, Wisconsin DNR River Planning Grant, UWP Curriculum Improvement Fund, UWP Professional Development Fund, UWP Grant Writing Opportunity Fund, UWP PURF)
- Secured a 3 year, $15,000 commitment to fund UWP student internships on stream ecology from Harry and Laura Nohr Chapter of Trout Unlimited.
- Principal Investigator of an (National Science Foundation) NSF research proposal submitted by 5 UWP colleagues for $1.05 million (denied)
- Part of an (National Science Foundation) NSF research proposal submitted by a group at Virginia Tech for $1.3 million (denied)
- Submitted a proposal with Robert Enloe from Platteville High School; Requested $17,385 (under review)
- Attended and presented at annual meetings of international societies: North American Benthological Society, Ecological Society of America, and American Fisheries Society
- Attended numerous (20+) workshops and seminars (including BILSA In-Services, UWP Advising and Career Exploration Services workshops, Academic Advising, etc.)
- Conducted stream ecology research on SW Wisconsin streams including the Rountree Branch, Blue River, McPherson Branch, and Snowden Branch
- Invited reviewer for 2 international, peer-reviewed journals, 2 book chapters, and the Earthwatch Institute
- Recognized as an Outstanding Alumnus by Oregon State University
- Invited participant in the U.S. Environmental Protection Agency's (EPA) ecosystem assessment workshop for the Great Lakes Region

C. Honors and awards
- 2006 Wisconsin Teaching Fellow
- 2005 Who’s Who Among America’s Teachers (’04, ’03)
- 2004 UW-Platteville Faculty Professional Development Award
- 2003 UWP Grant Writing Opportunity Funds Award
- 2003 Honorary Induction into Phi Eta Sigma National Honor Society
- 2002 Wisconsin Department of Natural Resources River Planning Grant Program
- 2002 UW-Platteville Faculty Professional Development Award
- 2001 UW-Platteville Chancellor’s Opportunity Fund Award

D. Summary of university/college/program and community service
- Serve (or have served) on 7 different departmental committees; 3 Chair positions
- Serve (or have served) on 2 different college committees
- Serve (or have served) on 3 different university committees
- Chair UWP’s HLC Accreditation Criterion 4 committee
- Chaired Search and Screen Committee for Terrestrial Vertebrate Biologist position
- Member REC Program Council
- Faculty advisor for 2 UWP Student Organizations
- Participated in Pioneer Preview and have met with over 20 prospective students
- Regularly participate in alumni related functions and events
- Biology Department representative for Multi-Cultural Services open house for prospective urban high school students
- Member of Ad-hoc committee charged with developing a proposal for an Environmental Education Center
- Co-authored a nomination for Senior Valedictory Speaker
- Prepared a course for College for Kids
- Invited participant to numerous water resource workshops (sponsored by: U.S. Environmental Protection Agency's (EPA), National Fish Habitat Initiative, Wisconsin DNR, UW Extension, Trout Unlimited, Natural Resources Conservation Service (NRCS), Rock River Watershed Coalition)
- Created an educational DVD with Peggy Compton (UW Extension) and Kris Stepenuck (WDNR) to train citizen water monitors in the state of Wisconsin.
- Founding member and Vice President of the Platteville Community Arboretum, Inc.
- Member of the Friends of the Rountree Branch (FORB) community organization
- Member of Internship Committee and Project Planning Committee for Harry and Laura Nohr Chapter of Trout Unlimited
- Submitted a proposal with Robert Enloe from Platteville High School to create an outdoor classroom for natural resource education to be used by all Platteville educational institutions

**Academic Staff**

**Teaching**

Teaching academic staff contracts are 100% teaching so only the individuals are listed here. However, it is important to note that the dedicated members of the staff of the Biology department are often involved in scholarly/professional development and university and community service.

**Ms. Cathy Cornett**
Areas of expertise: General Biology, Biotechnology, Chemistry

**Dr. Elizabeth Duewer**
Areas of expertise: Botany, Entomology

**Dr. David Miller**
Areas of expertise: General Biology, Zoology, Biology Education

**Ms. Wendy Stankovich**
Areas of expertise: Aquatic Ecology
Non-Teaching

Ms. Gloria Stuckey
Gloria Stuckey is the department lab manager. In that capacity, she orders and inventories all lab equipment and supplies, maintains chemical, equipment and supply inventories, supervises student employees, manages hazardous wastes, maintains and repairs equipment, prepares the General Biology, General Zoology and General Botany labs and assists with preparation of the advanced labs.
### Section IV. Students

#### A. Enrollment Trends and Analysis

**Enrollment Data (Table)**

<table>
<thead>
<tr>
<th>Biology (04011)</th>
<th>Fall 2000</th>
<th>Fall 2001</th>
<th>Fall 2002</th>
<th>Fall 2003</th>
<th>Fall 2004</th>
<th>Fall 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Majors</td>
<td>179</td>
<td>177</td>
<td>185</td>
<td>202</td>
<td>223</td>
<td>256</td>
</tr>
<tr>
<td>Number of Minors</td>
<td>45</td>
<td>37</td>
<td>29</td>
<td>22</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Majors Cumulative GPA</td>
<td>2.96</td>
<td>3.00</td>
<td>2.97</td>
<td>2.93</td>
<td>2.95</td>
<td>2.93</td>
</tr>
<tr>
<td>Minors Cumulative GPA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPA</td>
<td>3.20</td>
<td>3.15</td>
<td>3.11</td>
<td>3.12</td>
<td>3.26</td>
<td>3.01</td>
</tr>
<tr>
<td>Number of Graduates</td>
<td>26</td>
<td>37</td>
<td>36</td>
<td>32</td>
<td>32</td>
<td>32</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Botany Emph.</th>
<th>Fall 2000</th>
<th>Fall 2001</th>
<th>Fall 2002</th>
<th>Fall 2003</th>
<th>Fall 2004</th>
<th>Fall 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Majors</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Majors Cumulative GPA</td>
<td>2.75</td>
<td>2.76</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>4.00</td>
</tr>
<tr>
<td>Number of Graduates</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cell &amp; Molecular Emph.</th>
<th>Fall 2000</th>
<th>Fall 2001</th>
<th>Fall 2002</th>
<th>Fall 2003</th>
<th>Fall 2004</th>
<th>Fall 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Majors</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Majors Cumulative GPA</td>
<td>3.49</td>
<td>3.41</td>
<td>2.48</td>
<td>2.73</td>
<td>2.81</td>
<td>2.81</td>
</tr>
<tr>
<td>Number of Graduates</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field Biology Emph.</th>
<th>Fall 2000</th>
<th>Fall 2001</th>
<th>Fall 2002</th>
<th>Fall 2003</th>
<th>Fall 2004</th>
<th>Fall 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Majors</td>
<td>10</td>
<td>14</td>
<td>20</td>
<td>22</td>
<td>25</td>
<td>31</td>
</tr>
<tr>
<td>Majors Cumulative GPA</td>
<td>2.54</td>
<td>2.69</td>
<td>2.91</td>
<td>2.75</td>
<td>2.89</td>
<td>2.90</td>
</tr>
<tr>
<td>Number of Graduates</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Secondary Ed Emph.</th>
<th>Fall 2000</th>
<th>Fall 2001</th>
<th>Fall 2002</th>
<th>Fall 2003</th>
<th>Fall 2004</th>
<th>Fall 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Majors</td>
<td>20</td>
<td>17</td>
<td>17</td>
<td>24</td>
<td>19</td>
<td>14</td>
</tr>
<tr>
<td>Majors Cumulative GPA</td>
<td>3.20</td>
<td>3.15</td>
<td>3.11</td>
<td>3.12</td>
<td>3.26</td>
<td>3.01</td>
</tr>
<tr>
<td>Number of Graduates</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Zoology Emph.</th>
<th>Fall 2000</th>
<th>Fall 2001</th>
<th>Fall 2002</th>
<th>Fall 2003</th>
<th>Fall 2004</th>
<th>Fall 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Majors</td>
<td>95</td>
<td>105</td>
<td>100</td>
<td>112</td>
<td>122</td>
<td>136</td>
</tr>
<tr>
<td>------------------</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>GPA</td>
<td>2.98</td>
<td>3.01</td>
<td>3.06</td>
<td>2.97</td>
<td>3.01</td>
<td>3.01</td>
</tr>
<tr>
<td>Number of Graduates</td>
<td>17</td>
<td>23</td>
<td>20</td>
<td>21</td>
<td>18</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cytotechnology Emph.</th>
<th>Fall 2000</th>
<th>Fall 2001</th>
<th>Fall 2002</th>
<th>Fall 2003</th>
<th>Fall 2004</th>
<th>Fall 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Majors</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Majors Cumulative GPA</td>
<td>3.12</td>
<td>3.23</td>
<td>3.17</td>
<td>3.29</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Number of Graduates</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General Emph.</th>
<th>Fall 2000</th>
<th>Fall 2001</th>
<th>Fall 2002</th>
<th>Fall 2003</th>
<th>Fall 2004</th>
<th>Fall 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Majors</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Majors Cumulative GPA</td>
<td>2.79</td>
<td>2.84</td>
<td>3.09</td>
<td>3.21</td>
<td>3.41</td>
<td>N/A</td>
</tr>
<tr>
<td>Number of Graduates</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No Emph. Listed</th>
<th>Fall 2000</th>
<th>Fall 2001</th>
<th>Fall 2002</th>
<th>Fall 2003</th>
<th>Fall 2004</th>
<th>Fall 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Majors</td>
<td>44</td>
<td>34</td>
<td>38</td>
<td>29</td>
<td>47</td>
<td>62</td>
</tr>
<tr>
<td>Majors Cumulative GPA</td>
<td>2.88</td>
<td>2.99</td>
<td>2.72</td>
<td>2.77</td>
<td>2.68</td>
<td>2.74</td>
</tr>
<tr>
<td>Number of Graduates</td>
<td>4</td>
<td>8</td>
<td>4</td>
<td>6</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

**Enrollment Data Notes:**

**Notes from Andy Nelson**

1) It appears that students in the Cytotechnology emphasis are not added to that emphasis until after they have graduated (per Kathy Nechvatal).

2) Number of Graduates" reflects students who earned a degree in this program during the previous academic year. For example, "Number of Graduates" listed for "Fall 2005" would reflect students who earned a degree in Art during the 2004-05 academic year (Fall 04, Spring 05, and Summer 05).

3) Students (typically New Freshmen) who have a GPA of 0 are excluded from the average GPA calculation.

4) Student counts from before Fall 2004 were taken from the end of the semester. Counts from fall 2004 on are as of the 10th day of classes for that semester.

**Biology Department Notes**

1) The student distribution and advisor records (people soft and student personnel records) show discrepancies. For example, it is not possible to have majors with no emphasis. In order to register as a biology major, an emphasis has to be indicated and there would be no academic plan for individuals without an emphasis. The distribution of individuals within
the listed emphases also does not match advisor peoplesoft and personnel records. It is unclear where these discrepancies originate.

2) The emphasis distribution is also somewhat misleading in that the data do not show the breakdown of pre-professional students within the various emphases. It is important to note that most of the health care pre-professional students, of which a large number of the biology majors are, fall under the Zoology Emphasis. The reason that many of these students are under the Zoology Emphasis is that the curriculum of this emphasis is most closely related to the pre-professional requirements of many health care programs. This will be addressed in with the future curriculum revision (see section VI. Future Plans).

Biology Program Growth Trends (Chart)

![Biology Program Growth Trends Chart]

Enrollment Analysis
As indicated in the enrollment data above, the biology department is currently enjoying some relatively rapid growth. Much of this growth is due to the TSI initiative, however, the growth trend definitely began earlier, around the fall of 2002. So, other reasons for the growth are likely successful placement rates and, based on student evaluations, exit interviews, and alumni comments, the quality of the program and the dedication of the faculty and staff. This growth is exciting but it has put a large academic demand on the department. This demand is further emphasized in the fact that the Biology department averages 339 student credit hours(SCH) per FTE. This is not only the highest SCH/FTE ratio in the College of BILSA, but it is one of the highest in the entire university. These demands make existing challenges (indicated in Section V) even more evident.
B. Requirements for Graduation

General Requirements

Bachelor of Science Degree

Total for Graduation 120 credits
General Education 44-58 credits
Major Studies 36 credits

Biology Major (36 credits)

All Biology majors must complete core courses, a field biology course, and an emphasis area. Biology Core Courses (21 credits):

* BIOLOGY 1350 General Botany 5 cr
* BIOLOGY 1450 General Zoology 5 cr
* BIOLOGY 2040 Cell Biology 4 cr
* BIOLOGY 3240 Microbiology 4 cr
* BIOLOGY 3330 Genetics 3 cr

Field biology courses (1 or more credits):

* BIOLOGY 2730 Vertebrate Zoology (Z, F) 3 cr
* BIOLOGY 3030 Ornithology (Z, F) 3 cr
* BIOLOGY 3110 Fresh Water Biology (G, F) 3 cr
* BIOLOGY 3340 Entomology (Z, F) 4 cr
* BIOLOGY 3430 General Ecology (G, F) 3 cr
* BIOLOGY 3630 Field Zoology (Z, F) 3 cr
* BIOLOGY 3640 Plant Taxonomy (B, F) 4 cr or
* Field course(s) at Pigeon Lake Field Station or other approved field station(s) and/or interim field trip(s)

The field course will count within the requirements of an emphasis where appropriate.

Credits earned at an accredited field station are accepted toward a major provided they fit within the general requirements for the major and have department approval.

Emphasis requirements:
Students must take advanced emphasis specific elective courses to complete the 36 credit requirement.

Other:

* CHEMISTRY 1140 General Chemistry 4 cr
* CHEMISTRY 1240 General Chemistry 4 cr
* ENGLISH 3000 Technical Writing 3 cr
Courses in biochemistry and other advanced chemistry, computer science, foreign languages, physics, and statistics and other advanced mathematics are strongly recommended or may be required for certain emphases.

Majors are strongly recommended to take MATH 1830 (Statistics).

No more than 48 credits from biology may be counted toward the 120 credits required for graduation.

A grade of "C" or higher is required in all courses which are counted for a major in biology. A grade of "C" or better is also required in Chemistry 1140, 1240, and in English 1130, 1230, and 3000.

NOTE: A total of three credits in BIOLOGY 4410, and/or 4920 count toward the 36-credit biology major.

C. Student Activities
1) UW-Platteville Chapter of Tri-Beta National Honor Society- Beta Beta Beta is a society for students, particularly undergraduates, dedicated to improving the understanding and appreciation of biology.
2) Biology Club- The Biology Club is open to all students and participates in activities associated with biology outside of class. These include activities such as field trips to zoos and aquariums and community service.
3) Many courses have a significant service learning component
4) Internship/Coops- Many biology students are involved in both formal and informal internships/Coops. Formal internships are those that students receive university credit. Both formal and informal internships provide students valuable experiences in the different areas of biology.
Section V. Program Evaluation

A. Faculty and Staff Program Needs

Lab Manager-
Due to the large academic demands on the Biology Department (See Section IV. above) it is paramount that the Biology department gets the current lab manager, Gloria Stuckey, in the Biology department fulltime (she is currently on a shared appointment: 25% Green House, 75% Biology). In the Fall introductory labs alone (Biol 1150, Biol 1350 and Biol 1450) Gloria has to do a minimum of three lab preps per week and must maintain all 25 lab sections every week. This does not include her extensive help in the advanced laboratories. On top of this, Gloria does all the organization, ordering of supplies for these laboratories. In addition, Gloria is involved in all the organization, ordering, storage and maintenance of laboratory supplies and equipment in the biology department and she is also involved in the handling of hazardous materials. Thus, the biology department needs Gloria Stuckey with a 100% contract as the lab manager.

Faculty and Staff-
In order to maintain the quality of the program, the department is also in need of a minimum of one other full time faculty member and one other full time academic staff member. This need is well emphasized in the enrollment trends and number of SChs generated per FTE. The need is also reflected in issues brought up in the Program Assessment Plan (Appendix I) and with the ever changing fields in biology. In order to offer advanced courses in specific specialty areas to better prepare students, more faculty and staff are needed. Related to this, in order to maintain low faculty to student ratios, a major recruitment point for UW-Platteville, the requested additional faculty and staff are needed because with the current course offerings and SCH demands, the biology department faculty and staff are already at maximum loads. In addition, the field of biology is evolving and there are several areas within biology that have become prominent for which the department has limited personnel or expertise. These areas include but are not limited to: bioinformatics, proteonomics, and certain aspects of biotechnology.

B. Facilities and Resources

With the rapid growth and current resources being stretched to the maximum, the Biology department has many resource needs.

1) Facilities-
   a. The most immediate facility need is an increase in lab space. Since the Spring of 2002, the Biology department has added a total of 15 lab and lecture sections in the general education and introductory biology courses (Biol 1150, 1350 and 1450) corresponding to an increase of minimally 452 students without any additional allocation of lab space. With lab preparation, student study time, lab practical set up, etc, we are at capacity. To accommodate increased enrollment, we will need the addition of at least two, large, general lab spaces that have the flexibility for use in different courses. In addition, there needs to be remodeling done to increase the use of current Biology department lab spaces.
   b. The Biology department is also in desperate need of large classroom lecture spaces. With increasing enrollment and a large SCH/FTE ratio, there is a real pressure to increase class sizes in the introductory lecture courses. It is acknowledged and greatly appreciated that
the administration would like to limit class sizes. The Biology department would also very much like to keep faculty student ratios in lecture classes low. However, unless there is a dramatic increase in FTE allocations to accommodate the smaller class sizes, this will not be possible. In addition, currently the Biology department only “controls” one lecture space on the entire campus, even though the department generates over 4071 SCHs per fall semester. With the large SCH production, this does not make sense and makes scheduling quite difficult. Thus, the Biology department needs to have control of at least one additional large lecture space (50 seats or higher).

c. Herbarium and Greenhouses- Due to increasing lab needs the Herbarium needs to be moved. For this, additional space is also needed although this is currently being worked on. In addition, organization of the biology section of the campus greenhouse and further re-organization of the biology greenhouse in Boebel, along with re-organization of the Botany prep room, needs to be done. The planned re-organization of these facilities will require additional funds.

d. Along with the remodeling of labs, there is a desperate need to upgrade the furniture in the current labs just to simply accommodate effective teaching. Current furniture is outdated, and in many cases, in very poor condition. Specifically, lab benches need to be replaced in many of the labs to replace those that are in poor condition and to facilitate the conversion of the labs into a “learning module” format. This format would consist of lab benches being organized so that students can work more readily in groups of four. Currently, many of the labs have benches that are immobile and arranged in straight rows. In addition, the chairs for many of the labs are simply sub-standard. The seats and backs are totally plastic, uncomfortable, falling apart, and, to be direct, an embarrassment.

e. The computer lab also needs to be remodeled to facilitate a “learner module” format. Currently the lab has all the computers in rows making group work difficult. In addition, all the computers need to be upgraded. If the Biology and English computer labs merge, the “learner module” format would be beneficial to both disciplines.

2) Equipment and Supplies (including capital equipment)-

a. Biology is an equipment, supply, and specimen intensive discipline. The department continues to constantly upgrade equipment along with maintaining adequate specimens and supplies for labs. However, even with a recent budget increase (see section V. C. below) there are still major equipment and supply needs. Examples of these needs beyond the basic “disposable supplies” (specimens, gloves, etc) are listed below. There are many more.

1. Student stereomicroscopes
2. Inverted microscopes
3. Molecular equipment: thermocyclers, pipettors, centrifuges, etc
4. Greenhouse and herbarium supplies
5. Basic histology slides for all areas
6. New cadavers
7. Electroshocker
8. GPS Units
9. SUV- For field studies and transporting students and equipment to field sites.
3) Library Resources
   a. Library resources are adequate with the exception of access to biology journals (online and paper). Journal resources are necessary for student and faculty research and current access needs to be expanded.

C. Current Operating Budget
   In 2004 and into 2005, a budget study was done by the biology department investigating general education course offering increases since the Spring of 2002. The increases (as stated previously) added up to an additional 15 lab and lecture sections accommodating over 452 new students with no increase in supply budget. The study also compared other system school supply budgets on a per SCH basis (only comparable UW-System schools were compared: UW-Oshkosh, UW-River Falls, UW-EauClaire). The UW-Platteville Biology department supply budget was found to be 31% below these other schools. This study, along with a budget proposal that was submitted to the UW-Platteville administration led to an increase of $15,000 to the annual Biology department supply budget in the fall of 2005. This increase, funded through TSI dollars, is greatly needed and appreciated. However, this increase is still short of the proposed budget that takes into account the recent course offering increases and the comparison to other system schools. So, the increase is still short of what is necessary to maintain quality equipment and resources for student learning. This problem is further exacerbated due to the projected increases in the number of students. If the biology department continues to grow at its present rate, there is going to be an even greater need for further supply budget increases. Given just the current needs, an additional $12,000 is necessary to make up the calculated deficit. The need for an increase in the supply budget is even further illustrated by the fact that the Biology department has resorted to using foundation monies to fund things such as professional development expenses (workshop registration and travel, publication expenses, etc), equipment purchases, field trip expenses and even candidate interview expenses.

D. Principle Strengths
   1) Faculty and Staff- This is, by far, what is voiced the most by current faculty, students, graduating seniors, and alums, as the greatest strength of the Biology department. Feedback from these sources consistently indicates that the Biology department faculty and staff are caring, personable, enthusiastic and extremely dedicated.
   2) Advising Program- Related to #1 above is the major commitment of faculty and staff to advising.
   3) The biology department has excellent professional program and competitive job and graduate school placement (see Appendix I). Related to this, feedback from employers of Biology department graduates is quite positive.
   3) The Biology department has a broad range of courses in the curriculum allowing for many different learning opportunities in biology.
   4) An undergraduate cadaver lab that is an excellent resource for student learning and community outreach education opportunities. This lab provides a unique opportunity for hands on experiential learning.
   5) The geographical location and organization of the campus allows for ready access to natural areas on and off campus. This is an excellent resource for biology field courses especially with the increased costs and logistic difficulties associated with arranging off campus outings.
6) The Biology department has productive collaborative programs with other institutions. These include an articulation agreement with the Doctor of Physical Therapy Program at Clarke College. This is a “3+1” agreement where prospective students spend three years at UW-Platteville and finish their fourth year at Clarke in the first year of the doctorate professional program. The department also has a Cytotechnology program that is another “3+1” agreement with the State Hygiene Lab in Madison. In this program, students finish their course of study at the state hygiene lab to fulfill the baccalaureate requirements.

7) The Biology department has several excellent off campus learning opportunities for students. These include the newly established Fiji Study Abroad Program in association with the University of the South Pacific. This program allows students to get international experience while studying in a biological paradise. Another off campus learning opportunity is the Selected Regional Habitats course. This course allows students to apply biological concepts in unique geographical areas. Some of the areas students in this course have gone include Belize, Costa Rica and the deserts of Arizona, Utah and Texas. The Biology department also has a strong relationship with the Pigeon Lake Field Station. This station provides field courses in a diverse natural area. Finally, students also have off campus opportunities through internships/Coops. Students can participate in formal internships for university credit.

8) The Biology department has many scholarship opportunities for, specifically, students in biology or closely related fields. These scholarships are listed in Appendix IV. These scholarships were incorporated to help students reach their goals and are an important aspect of student recruitment and retention. Funding for scholarships is through generous donations from Biology department alums.

9) The Biology department has several interdisciplinary programs. One of these programs is the Nanotechnology course that includes the participation of Engineering, Physics, Chemistry and Biology. Another program includes some of the Selected Regional Habitat opportunities. For example, in Winterim 2006 there will be a course on the Pacific Northwest ecology and geography with participation from both the Biology and the Geography/Geology departments.

E. Serious Problems and Recommendations for Solving

Many of the problems the Biology department faces and the corresponding recommendations for resolving them are indicated in part V. A-C above. Here the focus will be on one additional problem facing the department, a lack of time for scholarly and professional development, especially research. Research is an integral part of understanding biology; integrating it in teaching and getting undergraduates involved in research projects, in other words, “doing science”, is an important aspect of student learning. However, due to the large faculty teaching and SCH loads, along with the related prep time, lab set up, etc, and the large service commitment to the university, faculty and staff are already pushed to the limit. Because of this, currently, any research activities are done on a particular faculty members own time, including winter and summer breaks, going well beyond the nine month contract time. In addition, due to the UW-System policy, there are no funds to support sabbaticals. So, if a faculty member goes on sabbatical, the teaching commitments must be absorbed by the department, further increasing faculty teaching loads. This problem is also emphasized by senior exit interview responses where several graduates voiced concern about the limited amount of undergraduate
research opportunities in biology here on campus. In short, the lack of time for faculty to engage in scholarly activities, especially research, is a problem.

Given the budget climate, a solution to this problem is difficult. However, the UW-Platteville Mission statement emphasizes scholarly activity. If this is truly part of the mission, then there needs to be a re-allocation and increase in the number of faculty and staff to reduce teaching loads so that there is more time for research. It is realized that UW-Platteville is not a “research” institution, so it is not expected that there be a major change in loads. But just one less class (5-6 pts on the 24 pt teaching load system, a 25% decrease) per faculty member could have a major impact, providing a consistent time slot for faculty to engage in research.

Section VI. Future Plans

The Biology department is currently undergoing a major curriculum revision to develop a more effective learning experience that increases student learning opportunities in the different areas while still providing a solid fundamental knowledge in biology. This revision includes the incorporation of a capstone course where students will be able to integrate different aspects of biology to an interrelated whole, the study of life.

In reference to the lab and lecture space needs, the Biology department has submitted a lab use report along with a proposal for the remodeling of current lab space and expansion for additional lab spaces.

The Biology department is also active in pursuing the possibility of the development of new interdisciplinary and inter-institutional programs to provide learning opportunities in some of the rapidly expanding biology related areas. As mentioned previously, the Biology department is already involved in the Nanotechnology program being developed through Engineering. In addition, the Biology department, also in conjunction with Engineering, is exploring the possibility of a Biomedical program. Further, the Biology department is looking at the possibility of developing new programs through articulation agreements with other institutions. One of the possibilities that have already begun to be explored is a Biotechnology emphasis in conjunction with the MATC Intensive Biotechnology Training Program. In this program students would spend approximately seven semesters at UW-Platteville and then finish their last semester in the Intensive Biotechnology Training Program at MATC to complete the baccalaureate requirements. Another articulation agreement to be explored is the possibility of a “2+2” Bachelor of Science in Nursing program with Southwest Technical College. In this program students would spend two years in the Biology program at UW-Platteville developing a fundamental scientific foundation. Then students would move on to Southwest Technical College for nursing specific courses and clinicals. After meeting the program requirements from both institutions, a bachelor of science in nursing would be awarded through the Biology department at UW-Platteville.
Appendix I: Biology Program Assessment Plan

Section I. Assessment Plan

Part I. Mission Statement

Part II. Student Learning Outcomes

Part III. Assessment Tools

Part IV. Overall Biology Program Student Learning Outcome/Assessment Tool Matrix:

Part V. Specific Biology Student Learning Outcomes

Part VI. Specific Biology Program Student Learning Outcome Assessment Tools

Part VII. Specific Biology Program Student Learning Outcome/Assessment Tool Matrix

Section II. Assessment Outcomes

Part I. Assessment Results

Part II. How assessment outcomes are being used to improve the program
Appendix I:
Section 1: Assessment Plan

Mission Statement

The Biology program provides biology students a fundamental knowledge of biology along with introducing students to the major areas in biology and opportunities to explore these areas. In this endeavor, the biology department provides students the ability to critically apply biological concepts to the understanding of natural phenomena and to dealing with biology related health, societal and conservation issues. In addition, the biology program prepares students for: advanced study and research in the biological and related sciences, healthcare professional programs, wildlife and forestry professional programs, veterinary professional programs, careers in education and biology related industry and governmental service. The biology program also provides courses for general education in the natural sciences to introduce students to science, biology, biological concepts and how these affect society. Finally, the biology program provides courses to support other university programs such as Agriculture, Education, Physical Education, Chemistry and Engineering.

How Mission Supports the University of Wisconsin Platteville Mission Statement

The Biology program mission is directly in line with the university mission. The program mission stresses the intellectual development of the student, especially in relation to critical thinking and the application of biological concepts to different areas. In this endeavor, the Biology program provides a baccalaureate degree in the sciences, specifically, the natural sciences, and prepares students for careers, professional programs and graduate programs in the various biology related fields. The Biology program mission also refers to scholarly activity in relation to the critical application of biological concepts in the different areas of biology. Also, the Biology program mission supports other baccalaureate degree programs specifically mentioned in the university mission including Engineering, Agriculture, Education and Criminal Justice. Finally, in relation to a “broader perspective”, the Biology program mission indicates a commitment to general education.

Overall Biology Program Student Learning Outcomes

1. Graduates will demonstrate a fundamental knowledge of biological concepts and the ability to apply these in the individual’s major program area.

2. Graduates will comprehend the scientific method and apply it in the understanding of the natural world.

3. Graduates will demonstrate effective written, oral and visual communication skills in a biological context.

4. Graduates will apply analytical and critical thinking skills to problems and issues in science and society and to the critical analysis and synthesis of biological literature.
5. Graduates will demonstrate skills and apply them in the proper use and care of equipment and specimens in the respective program areas.

6. Graduates will develop an appreciation and enthusiasm for science, especially biology, and develop a curiosity for the world around them.

7. Graduates seeking DPI certification in Biology Secondary Education will demonstrate the skills, knowledge and competencies for teaching biology.

8. Graduates seeking advanced professional degrees in health care and other areas will demonstrate skills, knowledge and competencies for acceptance and participation in professional programs.

9. Graduates seeking advanced graduate study and research will demonstrate the skills, knowledge and competencies for acceptance and participation in graduate programs.

10. Graduates seeking biology-related careers not initially requiring advanced study will demonstrate skills, knowledge and competencies to be competitive and to participate in their respective occupational areas.

**Assessment Tools**

**General Program Assessment**

**Tool A: Placement data**—Program is assessed through tracking placement of students in professional and graduate programs, and jobs. Placement data for professional and graduate programs is based on the number of students that applied verses the number that were accepted.

**Tool B: Senior Exit Interviews**—Program is assessed through an exit survey taken by graduating seniors (see Appendix II).

**Tool C: Student Evaluations**—Program is assessed through student outcome related questions on student course evaluations (see Appendix III).

**Tool D: Biology Advisory Council (BAC)**—The BAC is made up of professionals in different areas of biology and includes alums. The council provides input and feedback to the UW-Platteville Biology program on what students need to be successful in the respective professional areas of the members. The BAC meets twice per academic year.

**Tool E: Portfolios**—Students seeking certification in secondary education in biology are required to maintain professional portfolios through the department of education.

**Tool F: DPI Certification**—Students seeking to teach in biology secondary education are required to obtain DPI certification. This includes passing the Praxis exam.
Course Assessment Tools

Tool G: Exams and Quizzes- Faculty assess student understanding and ability to apply biological concepts through exams, quizzes, group quizzes and take-home exams.

Tool H: Assignments- Faculty assess student understanding and ability to apply biological concepts through assignments. These assignments include problems, article readings with related study questions and concept application questions assigned for work outside of class. These assignments only include brief written responses, if any, and do not have a significant writing component because those assignments with a significant writing component are categorized under the next tool.

Tool I: Written Assignments- Faculty assess student understanding and ability to apply biological concepts through written assignments. These assignments include research papers and writings where a student reflects on course-related concepts, questions and/or readings. These also include in-depth lab reports, research proposals and case study reports.

Tool J: Lab Exercises- Faculty assess student understanding and ability to apply biological concepts through lab exercises. With these lab exercises, faculty also assess student skills in the use and care of equipment and specimens. Lab exercises are typically “hands on” learning experiences where students conduct field or lab experiments and/or relate biological concepts to dissections, models, tissue samples, radiographs, etc. Often these exercises include written lab reports and/or lab related questions.

Tool K: Oral and visual presentations- Faculty assess student communication skills through oral and visual presentations. These presentations include power point and poster presentations.

Tool L: Observation- Faculty assess student lab skills and techniques through observation of students working in the lab and in the field.

Overall Biology Program Student Learning Outcome/Assessment Tool Matrix:

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A B C D E F G H I J K L</td>
</tr>
<tr>
<td>1</td>
<td>X X X X X X X X</td>
</tr>
<tr>
<td>2</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>3</td>
<td>X X X X</td>
</tr>
<tr>
<td>4</td>
<td>X X X X X</td>
</tr>
<tr>
<td>5</td>
<td>X X X</td>
</tr>
<tr>
<td>6</td>
<td>X X X</td>
</tr>
<tr>
<td>7</td>
<td>X X X X X X X X X</td>
</tr>
<tr>
<td>8</td>
<td>X X X X X X X X X</td>
</tr>
<tr>
<td>9</td>
<td>X X X X X X X X X</td>
</tr>
<tr>
<td>10</td>
<td>X X X X X X X X X</td>
</tr>
</tbody>
</table>

30
Specific Biology Program Student Learning Outcomes:

Through the biology program curriculum, graduates will...

Attitudes:

1. develop an appreciation for science and especially biology. This appreciation will include how science and biology permeates our society and many other aspects of our lives.

2. develop a curiosity for the world around them. This curiosity will include not only “how does that work?” or “what is that bug” or “how are genes expressed”, but also “how do we know that?” or “how can we figure this out?”.

3. respect equipment and specimens or materials. Biologists depend on these things and the proper care and want to care for them is critical.

4. develop an enthusiasm and motivation for biology and the sciences.

5. further develop integrity. This development will include integrity in scientific endeavors and communication such as the issues of plagiarism and “fudging data” in research.

Skills:

1. understand and apply the scientific method. Graduates need to understand what the process of science is and what it is not. In this light, graduates will also understand its limitations.

2. develop and apply communication skills.
   a. These communication skills include being able to present in a logical, understandable fashion, ideas or information in written, oral and visual formats.
   b. These skills also include “people” or inter-personal skills. Graduates should be able to present themselves in a positive and professional way when interacting with others.

3. develop and apply critical thinking skills. Graduates will apply these skills to problems and/or issues in science, nature and society. This would include critical analysis and synthesis associated with the examination of literature and other informational resources.

4. develop resourcefulness and inventiveness. Graduates will develop the means to be able to identify and utilize available, pertinent resources (including those within his/her own person) in the solving of problems, the scientific process and in dealing with societal issues.

5. develop creativity. This would include developing novel ideas and approaches to solving problems, dealing with issues and experimental approaches.

6. integrate multiple disciplines in the practice of science. For example, biology depends on the fundamental understanding of many other disciplines including physics, chemistry, astronomy, geology and geography.
7. develop and apply skills for the proper use and care of equipment.

**Knowledge:**

1. **Hierarchy of Biological Structure**
   - describe the hierarchy and illustrate how the hierarchical context relates to different organisms. Graduates will also be able to relate the different levels of the hierarchy and how they influence the organism. Lastly, graduates will distinguish biological systems within the context of the hierarchy.

2. **Evolution**
   - summarize the concept of evolution and assess the role of evolution in biology. Graduates will integrate the concepts of natural selection and evolution. Lastly, graduates will relate the diversity of life to evolution and natural selection.

3. **Diversity of Life**
   - differentiate various organisms according to their evolutionary relationships. Graduates will explain how and why systematic approaches are used to organize and understand the diversity of organisms. Lastly, graduates will describe how the concept of species fits within the context of biology.

4. **Ecology**
   - illustrate the interrelationships among organisms and the interrelationships between organisms and the environment. Graduates will also describe energy and nutrient cycles and infer how those cycles influence organisms and the environment. Lastly, graduates will relate ecological concepts to various disciplines within biology.

5. **Genetics**
   - describe the structure and expression of genes. Graduates will apply gene expression to the inheritance of traits. Graduates will demonstrate the role of inheritance in determining differences among individual organisms, populations, and species. Lastly, graduates will apply the relationships among DNA, RNA, and protein synthesis to gene expression.

6. **Cells**
   - compare and contrast the structures and functions of various cell types. Graduates will also illustrate the processes of mitosis and meiosis, as well as describe the roles these processes have in a biological context. Lastly, graduates will explain and relate the concepts of cellular respiration and photosynthesis.

7. **Properties of Life**
   - summarize the properties that are expressed by all living things. Consequently, graduates will discriminate living entities from non-living entities. Lastly, graduates will describe the theory of chemical evolution (i.e. the biological explanation of how life began on earth).
8. **Energy**  
- explain what energy is and the different forms of energy. Graduates will also apply the 1\textsuperscript{st} and 2\textsuperscript{nd} Laws of Thermodynamics to the form and function of biological systems. Lastly, graduates will relate the concepts of entropy and homeostasis.

9. **Process of Science**  
- collect, analyze, interpret, summarize, and present biological data within the context of the scientific method. Graduates will also distinguish between experimental and observational approaches and assess how each might be used to answer scientific questions. Graduates will also integrate previous findings from scientific literature into both approaches. Lastly, graduates will formulate testable hypotheses and assess the appropriate methods to test those hypotheses.

10. **History of Science**  
- relate historical contributions to science with the current approaches and knowledge base within biology. Graduates will also describe the contributions of various individuals to the science of biology.

11. **Science and Society**  
- illustrate how biology relates to society. As citizens, graduates will also be able to make informed decisions about biological issues and policies. Lastly, graduates will differentiate the means by which biology is communicated to society and assess the advantages and disadvantages of each.

12. **Bioethics**  
- identify and assess different positions associated with ethical issues in biology. Graduates will also describe the role of ethics in their present and future biological careers. Lastly, graduates explain the impact and importance of ethics on science and biology.
Specific Biology Program Student Learning Outcome Assessment Tools

The following assessment tools and assessment tool/outcome matrix correspond to the core curriculum courses that all majors must take. The matrix shows the specific student learning outcomes that are covered in each particular course and the tools used in that core course to assess those outcomes. This format is based on what was submitted for DPI accreditation for the school of education.

A= Assignments- This would include problems, article readings with related study questions and concept application questions, assigned for work outside of class that do not have a significant writing component.
C= Case Studies- A case study may be thought of as a document, text, story, or event, utilized as a vehicle for discussion. The key is the discussion where students develop critical thinking skills through applying concepts and theories as a means to confront issues which the instructor wants to emphasize (Boehrer & Linsky, 1990).
D= Discussion- This would include formal and informal discussions on course related topic and readings.
E= Program Evaluation- At this point we have not defined a specific type of program evaluation. We are exploring, through grant funded research, the possibility of a content area standardized exam. We will also be discussing other possibilities such as student research presentations or a capstone course.
L= Lab Experiments or Exercises- This would include formal lab reports, lab related questions, hypothesis testing labs and others.
O= Observation- This would be instructor observation of desired outcome in lecture (including small group activities) and lab settings.
P= Presentation- Presentations would include oral or poster presentations on a research project or course related topic.
R= Written Assignments, Papers- This would include research papers and writings where a student reflects on course related concepts, questions and/or readings.
S= Active Learning- This includes concept application questions or problems that students do in class as a group or individually, and then the answers are discussed in small groups or the class as a whole providing immediate assessment of student learning.
T= Traditional Exams and Quizzes- This would include traditional exams, quizzes, group quizzes and take home exams.
I= Senior student exit interviews- Program is assessed through an exit survey taken by graduating seniors (see Appendix II).
V= Student Evaluations- Program is assessed through student outcome related questions on student course evaluations (see Appendix III).
# Specific Biology Program Student Learning Outcome/Assessment Tool Matrix

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attitudes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>A, D</td>
<td>D, O, R</td>
<td>C, D, O, R</td>
<td>D, O, R</td>
<td>C, D, R</td>
<td></td>
<td>I, V</td>
</tr>
<tr>
<td>2</td>
<td>S</td>
<td>D, O, R</td>
<td>C, D, O, R</td>
<td>D, O, R</td>
<td>C, D, R</td>
<td></td>
<td>I, V</td>
</tr>
<tr>
<td>4</td>
<td>D, O, R</td>
<td>D, O, R</td>
<td>C, D, O, R</td>
<td>D, O, R</td>
<td>C, D, R</td>
<td></td>
<td>I, V</td>
</tr>
<tr>
<td>5</td>
<td>L, R</td>
<td>D, L, R</td>
<td>C, D, L, R</td>
<td>D, L, R</td>
<td>C, D, R</td>
<td></td>
<td>I, V</td>
</tr>
<tr>
<td><strong>Skills</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>L, R</td>
<td>D, L, R</td>
<td>C, D, L, R</td>
<td>D, L, R</td>
<td>C, D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>L, P, R</td>
<td>R</td>
<td>C, P, R</td>
<td>P, R</td>
<td>C, P, R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>O, T</td>
<td>O, L, T</td>
<td>O, L, T</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Knowledge</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>T, S, A, D</td>
<td>A, D, L, T</td>
<td>A, D, T</td>
<td>A, D, L, T</td>
<td>A, D, S, T</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>A, L, S, T</td>
<td>A, R, T</td>
<td>D, P, T</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>A, L, T, S</td>
<td>A, L, T</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>A, T</td>
<td>A, L, T</td>
<td>D</td>
<td>A, T</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>A, T</td>
<td>A, L, T</td>
<td>A, L, S, T</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>D, L, R</td>
<td>L, R</td>
<td>C, L, P, R</td>
<td>L, P, R</td>
<td>C, P, R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>A, T</td>
<td>A, D, T</td>
<td>A, D, T</td>
<td>A, D, T</td>
<td>D, T</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>A, P, T</td>
<td>A, D</td>
<td>C, D, P, R</td>
<td>D, R</td>
<td>C, D, P, R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>D</td>
<td>D</td>
<td>A, C, D</td>
<td>A, D</td>
<td>C, D, P, R</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section 2: Assessment Outcomes

Assessment Results

Placement Data:
Placement Rate table:

Combined Placement since fall 2002

<table>
<thead>
<tr>
<th></th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total professional school</td>
<td>82%</td>
</tr>
<tr>
<td>Graduate School</td>
<td>57%</td>
</tr>
<tr>
<td>Jobs</td>
<td>50%</td>
</tr>
<tr>
<td>Total</td>
<td>63%</td>
</tr>
<tr>
<td>Grand total</td>
<td>51%</td>
</tr>
</tbody>
</table>

Chart Explanations
1) All placement results except for the ‘Grand Total’ are based on those graduates that applied to a particular program verses those students that were accepted. The ‘Grand Total’ includes all students including those that did not apply.
2) Total professional program placement includes data from the following programs: Medicine, Physical Therapy, Physician Assistant, Chiropractic, Optometry, Nursing, Cytotechnology, Veterinary Medicine, Medical Technology, Dietetics.
3) Placement results do not include recent applicants submitted by past graduates or recent secondary applicants.

Placement Results:
Placement tracking began in the fall of 2002 and is based on senior exit interviews, communications with recent alums about placement and data comparisons with the placement office here on campus. Because the placement data do not include recent applicants and secondary applicants, the actual placement rates are likely higher.

Overall placement results are quite good relative to the national average. Professional program placement is well above the national average in all areas with some areas being 100%.
Senior Exit Interviews:

Senior exit interviews are used to get student biographical and placement information and to get feedback from students on program strengths, weaknesses, and in relation to particular student learning outcomes. The interviews began in the Spring of 2002 and then in the fall of 2004 the format was changed to more of a quantitative format (Appendix II). Please note that the quantitative data reflects results from the fall 04 through the spring of 05 and is incomplete due to the data still being compiled.

Brief Summary of Results- Spring 2002-2005

Program Strengths:
1) Faculty- Graduates repeatedly give positive remarks about the dedication, enthusiasm and knowledge of the Biology department program.
2) “Hands on” experiential laboratory experiences.
3) Quality of education- Almost all students indicated that they received a quality education giving them a solid extensive background.
4) Resources- Some indicate that particular resources were a strength such as the cadaver lab, the Anatomy and Physiology computer interfaced physiology equipment (iWorx) and some of the field equipment. Outside of particular resources however, this is indicated as one of the major weaknesses of the program.
5) Advising- Overall students were extremely pleased with the advising experience. Students indicated that their advisors were helpful, knowledgeable and dedicated.
6) Class sizes- Students indicated an appreciation for the smaller class sizes in lab and in the advanced courses.

Program Weaknesses:
1) Lab Equipment and Resources- This is by far what was indicated most often as a weakness of the program. Specifically, students indicated that a lot of the equipment and furniture was old and outdated.
2) Research experiences- Students indicated that there are limited research opportunities in the program outside of class.
3) Advanced biology elective courses- Some students indicated that there is a need for more advanced biology elective courses in the areas of anatomy and physiology, biotechnology, genetics, field courses, ecology and zoology.

Program Assessment Quantitative results:
The numbers indicate the average of the responses on a 1-4 scale corresponding to the exit interview form with 1 being “definitely no” in question #1 and #3 and “poor” in #2, and 4 being “definitely yes” in question #1 and #3 and “excellent” in #2 (refer to Appendix II).

1) Do you feel you have received a solid and extensive biology background by attending UW-Platteville? **3.71**

2) Overall, how would you evaluate the quality of academic advising you have received in the Biology Department at UW-Platteville? **3.86**
3) Would you recommend attending UW-Platteville to a prospective student? 3.86

Assessment of Student Learning Outcomes:
The numbers indicate the average of the responses on a 1-5 scale corresponding to the exit interview form with a 5 being “a great deal” and a 1 “being not at all” for questions #4-#8. These questions refer specifically to the Overall Biology Student Learning Outcome #6 and the Specific Biology Program Student Learning Outcomes #1-#5 above.

4) The Biology Program at UW-Platteville helped me develop an appreciation for science, especially biology. 4.86

5) The Biology Program at UW-Platteville helped me develop a curiosity for the world around me. 5

6) The Biology Program at UW-Platteville helped me develop a respect for equipment, specimens and/or materials. 4.71

7) The Biology Program at UW-Platteville helped me develop an enthusiasm for biology and the sciences. 4.71

8) The Biology Program at UW-Platteville helped me further develop integrity. (This development would include integrity in scientific endeavors and communication including issues of plagiarism and “fudging data”. This would also include the development of personal integrity.) 4.71

Student Evaluation Program Assessment Question Results:
The following corresponds to student evaluation responses on the Biology Department student evaluation form (Form A) (Appendix III) for the core biology courses. These courses are those that all biology majors must take (indicated immediately below). The numbers after each question item represent the average response on a scale from 1-5 with 5 being “a great deal” and 1 being “not at all” for the related question from Form A. Because the scantron forms are in alphabetical format, a score of 5 corresponds to choice ‘A’, a 4 to choice ‘B’, etc. Please note that the program assessment questions were incorporated in the Spring of 2005 and only the results of that semester are represented here.

Core Courses
Biol 1350 Botany
Biol 1450 Zoology
Biol 2040 Cell Biology
Biol 3330 Genetics
Biol 3240 Microbiology
Assessment Questions Results (Numbers correspond to question number on Form A)

13. During this course I increased my appreciation for science, especially biology. 4.05

14. During this course I developed a curiosity for the world around me. 3.93

15. During this course I developed a respect for the equipment, specimens and materials we use in the study of biology. 4.02

16. During this course I became motivated to learn more and developed an enthusiasm for the sciences, especially biology. 3.78

17. During this course I developed or recognized the importance of integrity regarding scientific endeavors and communication such as the issues of plagiarism and “fudging data” in research. 3.85

How assessment outcomes are being used to improve the program

Placement data
Placement data is monitored by the faculty to identify and discuss deficiencies and incorporate necessary program changes. Placement data has been quite good (well above the national average) for most areas and there have not been many changes necessary. Some areas that have been addressed include the following:

1) Medical School Placement- To facilitate higher MCAT scores, the Biology department purchased practice tests for students to utilize in their preparation for the exam.

2) Job placement- The department discussed placement and there were several issues associated with it, many of them are area specific. One item that was addressed is to increase the emphasis on COOPs/Internships and research experiences. This has been done with Dr. Kris Wright serving as the internship coordinator. In this capacity he has developed an internship procedure booklet. In addition, a list of cooperating agencies has been placed on the Biology Department website. Finally, internship and research opportunities are forwarded to majors via e-mail.

Senior Exit Interviews
Exit interview data has reinforced and helped us emphasize program strengths. Interview data has also reinforced what are already known program challenges. The following are some of what the Biology Department has initiated in regards to these challenges.

1) Lab Equipment and Resources- The department is limited by budget restraints. To help alleviate this, a budget proposal was presented to the UW-Platteville administration and BAC. Based on the presentation, the administration increased the department supply budget for the 2005-2006 academic year through Tri-State Initiative (TSI) funds. These monies are being used to purchase equipment and to update and replace older inadequate supplies. The budget increase has definitely helped, however, the department is still under budget and supply needs will continue, and actually increase, in the future.
2) Limited research experiences for undergraduates- This challenge is difficult to address given the large teaching and service commitment faculty have to the university. All faculty do what they can as far as independent research experiences. The department also publicizes off campus research experiences such as Summer Undergraduate Research Fellows and Summer Undergraduate Research Programs available at other institutions.

3) Advanced Biology Elective Courses- The department is currently looking at a major curriculum revision that will incorporate advanced elective courses that coincide with the specific study areas. Outside of this, the department has already incorporated new courses such as Biol 3110 Fresh Water Biology and Biol 4440 Human Gross Anatomy.

**Student Evaluation Data**
Student evaluation data has been quite positive. In relation to program assessment questions, the department is has just begun collecting and compiling data.

**Biology Advisory Council**
The BAC has provided constant feedback on curriculum and other departmental issues. The BAC has also acted on behalf of the department in reinforcing the need for the biology supply budget increase. Because the BAC is made up of professionals in different areas of biology, the input from members is extremely valuable.

**Portfolios and DPI Certification**
The biology secondary education students maintain a portfolio that is monitored through the School of Education and by representative faculty. The portfolio is an integral part of the certification process. The Praxis exam is also part of the certification process. To help students with the exam, the department purchased practice tests for students to utilize in their preparation for the exam. For those students who complete the program, the rate of certification has been excellent.

**Course Assessment Tools**
In class assessments are utilized to refine course materials, content and assessment tools.

**Future**
The Biology department is currently undergoing curriculum assessment and revision. In this endeavor the department is looking to incorporate a capstone course in the future. This course would have the overriding student learning outcome of: students will be able to integrate different aspects of biology to an interrelated whole, the study of life. Assessments being discussed for this are critical analyses and discussions of biological literature, research presentations and possibly the incorporation of the Biology MFAT exam. Discussions on course formatting and assessments continue.
Appendix II: Senior Exit Interview and Program Assessment Forms

University of Wisconsin-Platteville
Department of Biology

I. Student Information

Name of graduate ____________________________________________ Date ____________

Permanent Home Address ____________________________________________

City ____________________ State _________________ Zip ________________

Permanent Home Phone (____) __________ E-mail Address ____________

Graduation Date _______________ Degree __________________

Major(s) __________________________ Emphasis __________________

II. Placement Information

1. Did you apply for a job (circle response)? YES NO

2. If yes, have you accepted a job (circle response)? YES NO

3. If yes, please provide the name and address of your employer. __________________

City ____________________ State _________________ Zip ________________

4. Have you applied to a professional program (circle response)? YES NO

(for example: Medical School, Veterinary School, Physician Assistant, Physical Therapy, Dental, Optometry, Chiropractic, etc)

5. Have you been accepted to a professional program (circle response)? YES NO

6. If yes, please provide the name and address of the program and school. __________________

City ____________________ State _________________ Zip ________________
7. Have you applied to a graduate program (circle response)? YES NO
   (non-professional i.e. M.S. or Ph.D.)?

8. Have you been accepted to a graduate program (circle response)? YES NO

9. If yes, please provide the name and address of the program and school. ____________________________

   City ____________________________  State ____________  Zip ____________

III. Program Assessment: Place an ‘X’ on the line that corresponds to your response. Please include written comments where appropriate.

1. Do you feel you have received a solid and extensive biology background by attending UW-Platteville?
   ___ Definitely yes      ___ Probably yes      ___ Probably no      ___ Definitely no
   comments:

2. Overall, how would you evaluate the quality of academic advising you have received in the Biology Department at UW-Platteville?
   ___ Excellent      ___ Good      ___ Fair      ___ Poor
   comments:

3. Would you recommend attending UW-Platteville to a prospective student?
   ___ Definitely yes      ___ Probably yes      ___ Probably no      ___ Definitely no
   comments:

IV. Assessment of Learning Outcomes: Place an ‘X’ on the line that corresponds to your response.

4. The Biology Program at UW-Platteville helped me develop an appreciation for science, especially biology.
   ___ A great deal      ___ A lot      ___ Somewhat      ___ A little      ___ Not at all

5. The Biology Program at UW-Platteville helped me develop a curiosity for the world around me.
   ___ A great deal      ___ A lot      ___ Somewhat      ___ A little      ___ Not at all
6. The Biology Program at UW-Platteville helped me develop a respect for equipment, specimens and/or materials.

____ A great deal  ____ A lot  ____ Somewhat  ____ A little  ____ Not at all

7. The Biology Program at UW-Platteville helped me develop an enthusiasm for biology and the sciences.

____ A great deal  ____ A lot  ____ Somewhat  ____ A little  ____ Not at all

8. The Biology Program at UW-Platteville helped me further develop integrity. (This development would include integrity in scientific endeavors and communication including issues of plagiarism and “fudging data”. This would also include the development of personal integrity.)

____ A great deal  ____ A lot  ____ Somewhat  ____ A little  ____ Not at all

V. Program Assessment: Written comments

1. Did you participate in any of the following (please indicate with an ‘X’ all appropriate experiences and give a brief description of the experience in the blank that follows).

____ Internship/Coop
____ Independent Study (Special Problems)
____ Selected Regional Habitats
____ Topics in Biology Course
____ Lab assistant
____ Other

Was the experience indicated above a worthwhile/valuable experience? Please explain.

2. What do you think are the major strengths of the Biology Department at UW-P?

3. What are some specific things you would like to see improved in the Biology Department at UW-P?
Appendix III: Student Evaluations (Biology Form A)

BIOLOGY FORM A 2006

INSTRUCTOR_______________________________

COURSE_______________________________   Lecture___ Lab___ Both___

Please use a #2 pencil to indicate your responses to the following items; fill in the appropriate circle on the computer-scan sheets and circle the corresponding letter on this form. You have 20 minutes to complete this evaluation. Please remain quiet if you happen to finish early.

STUDENT PROFILE

1. I am working towards a:  A = Biology Major    B = Non-Biology Major
Scan Sheet Response (circle):  A    B

2. Which of the following best describes your attitude about this class:
   A = I have positive feelings about this class
   B = I have mixed feelings (positive and negative) about this class
   C = I have negative feelings about this class
   D = I have no strong feelings either way about this class
Scan Sheet Response (circle):  A    B    C    D

EVALUATION

Evaluation Scale

A = A Great Deal          B = A Lot          C = Somewhat         D = A Little          E = Not at all
Left Blank = Does Not Apply; I Don’t Care; or, I Have No Opinion

For each of the following items, please provide an explanation for your score in the space provided.

INSTRUCTOR EVALUATION

3. The course objectives were clearly communicated.
Scan Sheet Response (circle):  A    B    C    D    E    Blank
Explanation:

4. The grading policy was clearly communicated.
Scan Sheet Response (circle):  A    B    C    D    E    Blank
Explanation:
5. The instructor increased my awareness of biology.
Scan Sheet Response (circle): A B C D E Blank
Explanatio:n:

6. The instructor was knowledgeable about the material being taught.
Scan Sheet Response (circle): A B C D E Blank
Explanatio:n:

7. The instructor showed interest in/enthusiasm for the subject matter.
Scan Sheet Response (circle): A B C D E Blank
Explanatio:n:

8. The instructor clearly explained course material.
Scan Sheet Response (circle): A B C D E Blank
Explanatio:n:

9. The instructor clarified or repeated explanations of material when requested.
Scan Sheet Response (circle): A B C D E Blank
Explanatio:n:

10. The instructor encouraged questions and comments.
Scan Sheet Response (circle): A B C D E Blank
Explanatio:n:

11. The instructor’s teaching methods assisted me in learning the course material.
Scan Sheet Response (circle): A B C D E Blank
Explanatio:n:

12. I would recommend this instructor to other students.
**COURSE EVALUATION**

Questions 13-17 are for the purpose of assessing the overall biology program, so please consider all aspects of the course (i.e. not just the instructor).

13. During this course I increased my appreciation for science, especially biology.
Scan Sheet Response (circle): A  B  C  D  E  Blank
Explanation:

14. During this course I developed a curiosity for the world around me.
Scan Sheet Response (circle): A  B  C  D  E  Blank
Explanation:

15. During this course I developed a respect for the equipment, specimens and materials we use in the study of biology.
Scan Sheet Response (circle): A  B  C  D  E  Blank
Explanation:

16. During this course I became motivated to learn more and developed an enthusiasm for the sciences, especially biology.
Scan Sheet Response (circle): A  B  C  D  E  Blank
Explanation:

17. During this course I developed or recognized the importance of integrity regarding scientific endeavors and communication such as the issues of plagiarism and “fudging data” in research.
Scan Sheet Response (circle): A  B  C  D  E  Blank
Explanation:
PLEASE RESPOND TO THESE THREE STATEMENTS.

A. Identify specific things your instructor has done especially well in teaching this course.

B. Identify specific things you believe might be done to improve the teaching of this course.

C. Other Comments
Appendix IV: Biology Department Scholarships

Scholarships/awards offered through the Biology Department

Ag/Biology Alumni Scholarship
Alumni chapter $250 Tuition Jan

Elizabeth A. Duewer Endowed Scholarship in Biology
2002 Donor $500 Tuition Feb

Biology Excellence Award
2003 Foundation $750 Tuition Feb

Biology Seed Award
2003 Foundation $750 Tuition Feb

UWP Biology Scholarship
2003 Foundation $500 Tuition Feb

Biology Investigative Opportunity Award
2003 Foundation $500 Research Apr

Pioneer Biologist Award
2003 Foundation $500 Tuition Sept

’95 Alumnus Wildlife Biology Award
2004 Donor $500 Research Apr

Jerry and Barbara Strohm Scholarship (BILSA scholarship)
2005 Donor $500 Tuition Feb

Aspiring Biologist Scholarship
2005 Donor $1,500 Tuition Sept

Plant Biology Award
2006 Donor $500 Research Apr

George Kettler Memorial Scholarship in Biology
2006 Donor $500 Tuition Feb

2006 due dates
February 15, 2006
April 28, 2006
September 29, 2006