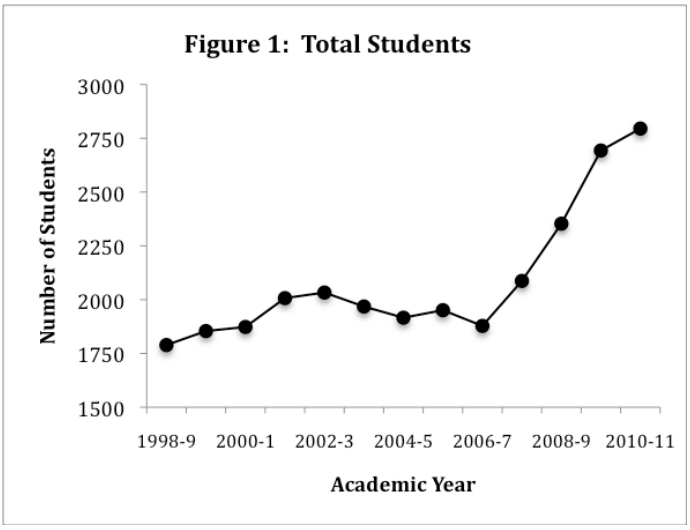
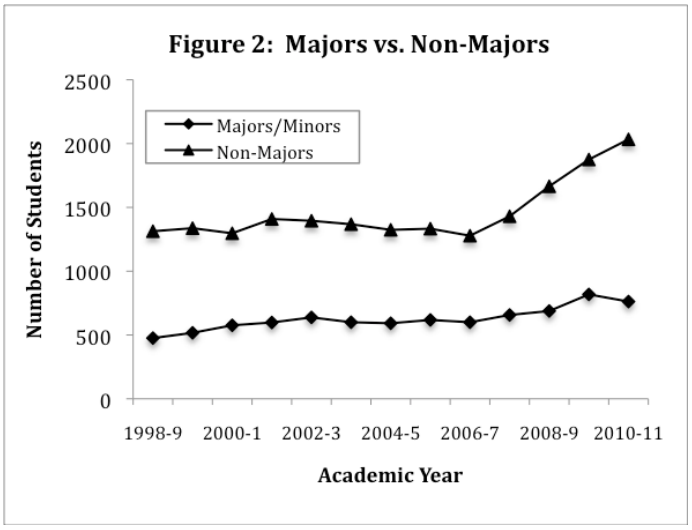
Biology Department Report, 2010-2011

Submitted by Sarah Boomer (July 12, 2011)

I. EXECUTIVE SUMMARY

A. Enrollment and Growth: Enrollment in Biology continued to grow (~2800 students taking Biology-related coursework in 2010-2011, Figure 1). Non-majors enrollment continued to show robust growth (~2000 students, Figure 2), particularly in BI 102, which showed a 23% enrollment increase (Section II, Figure 3). Although majors/minors trends showed some flattening (~750 students, Figure 2), enrollment in most majors courses remained at sustained high levels, with several courses reaching all-time high enrollments (more in Section II).





B. Major/Minor Success: Our students have been successful in their Biology-related pursuits. At least 9 current or former majors were accepted into professional schools and advanced degree programs (e.g. Education, Medicine, Veterinary, Nutrition). In addition, at least 17 advisees were accepted into professional undergraduate programs (e.g. Nursing, Dental Hygiene). Please see Appendix 3 for a complete list of all outstanding student achievements.

C. Enhanced Infrastructure: Our department continued to improve and pursue opportunities to enhance laboratory space and technology. The AIC-recommended remodel of NS201 (Microbiology Teaching Laboratory) is presently underway. Facilitating this renovation, the department significantly improved organization for some of its large/shared equipment, freeing up space in other teaching labs, improving research access, and de-cluttering prep room areas. The AIC-recommended Human Anatomy & Physiology (A&P) equipment proposal for iWorx data acquisition systems ($29,000) was also funded, enhancing teaching capabilities and student access in NS006 (Human A&P Teaching Laboratory). An AIC proposal to remodel NS123 (100 Series Teaching Laboratory) was also highly recommended and discussions remain ongoing to improve this important non-majors facility. The department also invested a portion of student lab fee funding to improve or replace equipment for our non-majors 100 series, cell/molecular coursework, ecology/field coursework, and botany/greenhouse.

D. Publications and Presentations: Collectively, Biology Faculty published 1 book chapter and 2 papers in peer-reviewed journals, with two other papers currently in the review process. We were involved in 10 refereed presentations at state or national meetings and workshops. Three of these were co-authored by current and/or former WOU students who contributed significantly to them. Please see Appendix 2B for a complete list of all publications and presentations.

E. Grants: Biology Faculty continue to receive grant monies for their research. This past year, monies have been received from the Department of Justice (2-year total $685,000; co-authored with Department of Earth Science and Oregon State Police), Oregon Sea Grant ($60,000 for this year – in review), and the WOU Faculty Development Committee (3 grants, totaling $6300).

F. University Service: Biology Faculty contributed significantly to WOU governance, with notable representation on Faculty Senate, Committee on Committees, Institutional Review Board, Program for Undergraduate Research Experiences, Academic Excellence Showcase Planning Committee, Faculty Evaluation Committee, Scholarship Committee, Writing Intensive Committee, and the University Personnel Review Committee.

G. Advising: Based on quarterly advising surveys, tenure-track Biology Faculty collectively advised ~350 students each term, with the majority carried by Dr. LeMaster (100-150 Pre-Nursing,) Dr. Dutton (70-90 Pre-Medicine), and Dr. Latham (40-50 Pre-Pharmacy). The majority of Biology advising takes place via individual appointments, totaling ~87 hours per term. Dr. LeMaster (WOU Academic Advisor of the Year Nominee) and Dr. Dutton (National Academic Advising Association Certificate of Merit) were both recognized for their outstanding advising.

H. Research and Scholarship: Six Biology Faculty served as mentors for 16 undergraduate research projects, including one Honors Thesis. All of these projects involved students engaged in original research, generating original data. Four student research projects mentored by Biology Faculty were presented at the Academic Excellence Showcase. Please see Appendix 2A for a complete list of all publications and presentations.

I. Professional Leadership: Biology Faculty continued to be actively involved in professional societies beyond WOU, with several assuming leadership roles at the local, regional, and national levels.

J. Scholarships: Our department awarded more than $35,000 of scholarships to undergraduate Biology majors, with all tenure-track Biology Faculty providing valuable service on our departmental Scholarship Committee.

K. Faculty/Staff Changes: A successful search was conducted to hire our new Cell Biology/A&P faculty member, Dr. Michael Baltzley. To ameliorate a yearlong overload situation in non-majors A&P and to serve 100 series growth, we just completed a successful search for a new full-time non-tenure faculty member, Dr. Amy Harwell.

II. ENROLLMENT TRENDS:

As described above (Section I.A and I.G), there has been continued enrollment growth in nearly all Biology courses. During the 2010-11 academic year, the Biology Department teaching personnel included seven tenure-track (TT) faculty (two full professors, two associate professors, and three assistant professors) and four full-time, non-tenure track (NTT) faculty; we were notably down one TT, owing to Dr. Galvan's late-spring 2010 retirement announcement. Although theoretical classroom hours available for our current faculty total 432 (1.0 FTE = 36 hours/TT faculty; 45 hours/NTT faculty), this value does not represent the actual hours available given reassignment time awards totaling ~40 hours, including: Department Head, PURE Coordinator, 100 Series Coordinator, PLTL Coordinator, and research/grant-provided. Meanwhile, one NTT faculty was continuously overloaded and one TT faculty did not accept offered advising reassignment time because of extreme growth in our Human A&P series. For these reasons, the Biology Department strongly and successfully argued to add and hire another NTT position targeted at non-majors A&P (new hire Dr. Amy Harwell).

Enrollment Trends – Non-Majors

Figure 3: Non-Majors 100 Series

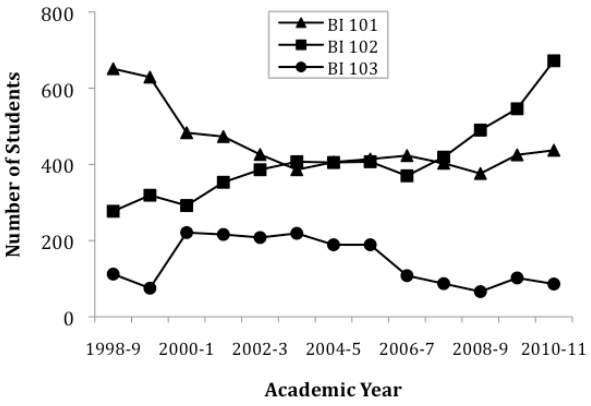
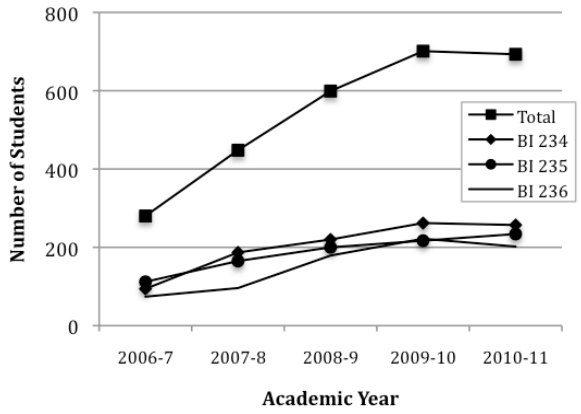


Figure 4: Non-Majors A&P



1. 100 Series: (Figure 3, adjacent)

BI 102 (Pre-Nursing, Health-PE, LACC) showed the most robust growth. New pre-req changes should allow more students to take BI 103, and relieve some BI 102 pressure.

2. Non-Majors A&P/BI 234-5-6: (Figure 4, adjacent)

Although the adjacent graph suggests BI 234-5-6 (Health-PE, Pre-Nursing) enrollment has leveled off, Dr. LeMaster closed nearly all sections once seats filled, owing to a lack of FTE. New minimum grade requirements should alleviate some of these pressures.

3. Non-Majors Microbiology/BI 318: (no graph)

The situation for BI 318 is similar to BI 234-5-6: leveling off because we are out of FTE and space. The NS201 remodel should alleviate some of these pressures.

4. Human Heredity (HH)/BI 441: (no graph)

Between 1998-2007, HH enrolled ~15 students/term. Now required for the Human Biology Minor, enrollment in HH shot up to 38 in 2009, and 55 (overloaded!) in 2011. This growth has not been noted in previous reports – and will provide a challenge for Dr. Latham's teaching schedule.

Enrollment Trends – Majors

Figure 5: Majors 200 Series

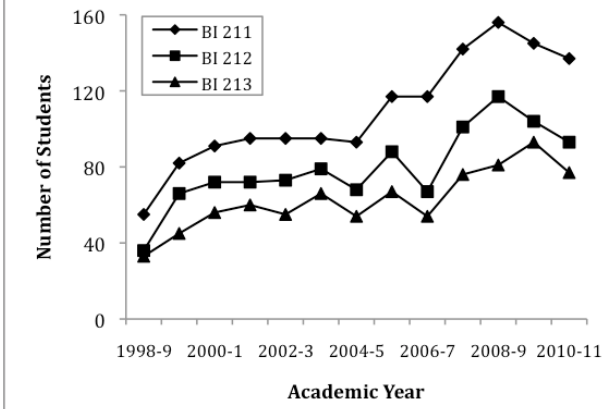
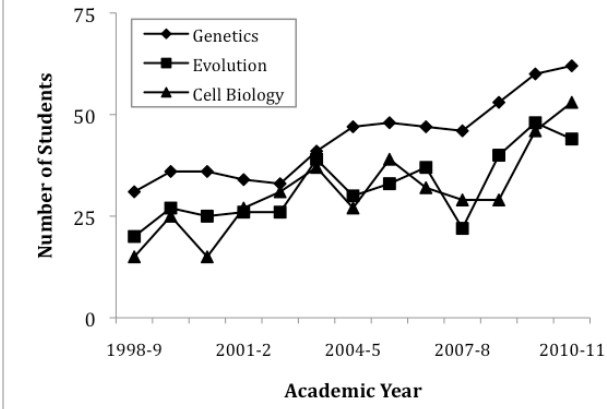


Figure 6: Majors 2nd Year Core



1. 200 Series: (Figure 5, adjacent)
Although BI 211 (60-70% Pre-Professional Health) initially filled, efforts to provide early testing and advising encouraged more under-prepared students to drop mid-way through the term. Even with these efforts, there is still a high (30-40%) F/D rate. We anticipate the new BI 211 trailer will allow for improved preparation and retention.

2. Second Year Core/BI 314-5-6: (Figure 6, adjacent)
While Genetics/BI 314 and Cell/BI 315 showed increased enrollment, Evolution/BI 316 dipped slightly – perhaps because students chose to take other, competing advanced courses - all of which were extremely well enrolled this spring (see #3 below).

3. Notable Advanced Coursework: (no graph)
The following electives experienced record enrollment: Human Dissection (doubled), Immunology (doubled), Insects (doubled), and Molecular (quadrupled). Many other courses (e.g. Majors Microbiology, Ecology, Vertebrate Anatomy, Vertebrate Physiology, Natural History) were full/closed.

III. SUMMARY OF PROGRAM CURRICULUM CHANGES

Course	Nature of Change	Status	Justification
BI 103	Dropped BI 102 pre-req	In New Catalog (INC)	To manage enrollment and improve access for LACC students given Pre-Nursing/Health-PE pressure in BI 102.
BI 234	Added minimum grade pre-req, content swapped with BI 235	INC	To manage enrollment and improve preparation; aligns with minimum grade pre-req's in Health-PE, Pre-Nursing.
BI 235	Content swapped with BI 234	INC	Movement of immunology to BI 234 (above) to better prepare Pre-Nursing/Health-PE students taking BI 318.
BI 318	Added minimum grade pre-req	INC	To manage enrollment and improve preparation; aligns with minimum grade pre-req's in Health-PE, Pre-Nursing.
BI 211	Added statement about new winter trailer	INC	To manage enrollment and improve access for under-prepared students who not ready to take BI 211 in the fall.
BI 213	Dropped BI 212 pre-req	INC	To manage enrollment and allow late-starters to better move through first-year sequence.
BI 314	Added Math 111 pre-req	INC	To manage enrollment and improve preparation.
BI 315	Changed pre-req's to BI 213, BI 314, and just CH 221	INC	To manage enrollment and improve preparation; allows late-starters to better move through second-year sequence.
BI 316	Changed pre-req's to BI 212, BI 314	INC	To manage enrollment and improve preparation; allows late-starters to better move through second-year sequence.

Course	Nature of Change	Status	Justification
BI 326	Changed course title and description	INC	Reflects instructor and field changes in last 10 years; aligns with developmental biology courses across country.
BI 331 (W)	Added BI 314 pre-req (WR 135 more emphatic)	INC	To manage enrollment and improve preparation to this third/fourth year course; BI 331 (W) has the most limited lab space in the building.
BI 357 (W)	Added Math 111 pre-req Stated BI 211-2-3 all req Some description changes (WR 135 more emphatic)	INC	To manage enrollment and improve preparation to this third/fourth year course; BI 357 (W) has limited lab space in the building.
BI 454 (W)	Added Math 111 pre-req Stated BI 211-2-3 all req Some description changes (WR 135 more emphatic)	INC	To manage enrollment and improve preparation to this third/fourth year course; reflects instructor and field changes in last 10 years
BI 100X	"New" course	INC	Although "temporary" BI 100X courses have been taught since 1997, we created this new zero-credit version in order to reduce course costs and better encourage "at-risk" students to take this proven study aid course.

IV. PROGRAM ASSESSMENT ACTIVITIES AND RESULTS

ALL Biology Faculty continued to develop and facilitate programmatic and/or course assessment. Given the large numbers of courses and diversity of collected data (e.g. demographic information aimed at tracking, enrollment management, and/or student preparation issues; pre/post content surveys driven by course learning outcomes, attitudinal questionnaires aimed at understanding students' perceptions about subject matter and/or course/lab features), Biology Faculty efforts have been summarized in the following assessment table:

	Nature of Assessment					
Topic	Demographic	Content	Attitude	Other	**Results**	**Faculty**
BI 101	X	X	X	Exam Frequency Study Habits	Pending	Baumgartner Howard
BI 102	X	X	X		Pending	Baumgartner
BI 103	X	X	X		Pending	Baumgartner
BI 211	X	X	X	At-Risk Advising Active Learning	Provided – Annual Report	Boomer Latham
BI 212		X			Pending	Dutton Haberman
BI 213		X			Pending	LeMaster Howard
BI 318	X		X		Provided – Annual Report	Boomer
BI 331	X		X		Provided – Annual Report	Boomer
BI 314	X		X		Pending	Latham
BI 316		X			Pending	Dutton
BI 461		X			Pending	Dutton
BI 361		X	X	Course Structure Sea Grant-Driven	Pending	Haberman Baumgartner
ETS Exam		X		Programmatic	Pending	Dutton*
Exit Survey	X		X	Advising Career Placement	Provided – Annual Report Three-Year Compilation	Boomer*

*Biology Faculty who assisted with ETS/Exit Survey administration: Baumgartner, Boomer, Dutton, Haberman

V. SWOT ANALYSIS

a. Strengths

- Biology Faculty are strongly committed to undergraduate education. All are active in all aspects of the university, including teaching, university governance, and research.
- As a department, we have made strides towards updating and enhancing our laboratories and teaching laboratory budgets to improve equipment, and to emphasize more cutting-edge laboratory exercises.
- Biology Faculty have embraced assessment as a means to provide empirical evidence for making programmatic and/or course changes with a specific emphasis on improving student preparation, managing enrollment, and better tracking/advising students.

b. Opportunities

- Enrollment growth provides an opportunity, so long as it is appropriately managed and supported.
- The diverse capabilities of Biology Faculty allow for a good balance of new research programs and experienced leadership and mentoring, so long as other workload demands remain in check.
- A combination of on-campus venues (e.g. PURE/Academic Showcase, Biology Scholarships, and Faculty Development Grants) and off-campus funding (e.g. Department of Justice, Oregon Sea Grant) have directly or indirectly supported a rich array of student-faculty research projects.

c. Challenges

- Based on provided annual reports, the most consistent and serious challenge raised regards research. The majority (7/11) of annual reports asserted this challenge, including from NTT faculty. Although 2010-11 saw a larger number of undergraduate-faculty research projects, our overall/collective publication and presentation rate is down from 2009-2010. Adding to this challenge is the growing expectation that some NTT faculty want to participate in research, a situation that is raising questions – minimally, about space and resource allocation, and the performance review/evaluation process.
- The second serious challenge regards the fact that enrollment is being allowed to skyrocket without a concomitant hiring of more tenure-track faculty. As reflected by some negative student feedback (e.g. Exit Survey), this is decreasing our ability to offer advanced electives in a timely manner. In particular, required organismal and A&P (both Human and Animal) coursework for Pre-Professional, Zoology, and General Biology emphases is suffering from a lack of seats and faculty expertise. It is also effectively increasing our advising workload, which has also resulted in some negative student feedback.
- The third serious challenge regards space. Simply put: there is no more room in the building, which means that even if we could hire another tenure-track faculty member, there would be no office/research space for him/her. And even with our existing faculty, expanded teaching and research space and equipment needs/demands, the level of turf-related issues this year has only exacerbated other workload frustrations.

d. Vulnerabilities

- Advising has become a serious vulnerability, not only because it is consuming our collective workload but also because of increasing student feedback (e.g. Exit Survey) regarding requests for more career-focused services (e.g. covering more areas, more non-WOU and/or out of state programs, more facilitation of practicum/in-the-field activities).
- We have long prided ourselves in offering a broad training in the field of Biology for undergraduates. Although 2010-11 saw increases in graduating majors with Botany or Ecology emphases, the continued increase in freshman-level students who state they are solely interested in Pre-Professional Health Science fields (especially those who do not understand the demands of this track and/or are under-prepared) continues to challenge our ability to provide appropriate course access and advise – particularly when weighed against our desire to serve our more diverse and committed upper classmen.
- Increases in tenure-track faculty positions have not kept pace with increases in student numbers. We believe that the department has been able to build a strong reputation in recent years but, without investing in additional tenure-track faculty positions, we foresee drops in recruitment and retention as we increase class sizes, reduce class availabilities, cut program offerings, and continue to see diminished student satisfaction.

APPENDIX 1: Faculty/Staff Roster

Tenure-Track Faculty

• Dr. Sarah Boomer	Professor	Years of Service = 14
• Dr. Bryan Dutton	Professor	Years of Service = 13
• Dr. Karen Haberman	Associate Professor	Years of Service = 13
• Dr. Mike LeMaster	Associate Professor	Years of Service = 8
• Dr. Erin Baumgartner	Assistant Professor (promoted spring 2011)	Years of Service = 3
• Dr. Kristin Latham	Assistant Professor	Years of Service = 3
• Dr. Ava Howard	Assistant Professor	Years of Service = 2

Non-Tenure Track Faculty

• Dr. Karen Bledsoe	Assistant Professor	Years of Service = 11
• Dr. Jeff Snyder	Assistant Professor	Years of Service = 4
• Dr. Elizabeth Martin	Assistant Professor	Years of Service = 1
• Scott MacDonald	Instructor	Years of Service = 4

*Dr. Irja Galvan (retired) returned as a temporary, part-time instructor for Immunology, Winter 2011

Lab Preparators:

• Piper Mueller-Warrant	full-time	Years of Service = 6
• Julie Grammer	half-time Biology (half-time Earth Science)	Years of Service 2

APPENDIX 2: Faculty Highlights

A. TEACHING - *Including Faculty-Student Collaborative Scholarship and Outreach*

- Undergraduate students participated in collaborative scholarship/research with faculty:
  - **With Dr. Haberman**: Joe Lewis, Bill Spencer, Tyler Orr, Stephanie Harrison, and Sylvia Herrold – with Stephanie Harrison presenting an Academic Showcase poster in May 2011.
  - **With Dr. Howard**: Brandon McNellis, Kailey Clarno, Kaylin Meyer, and Alyssa Palmer – with Brandon McNellis presenting an Academic Showcase poster in May 2011.
  - **With Dr. Latham**: Adam Pettit, Brandon Walker, and James Kramer – with Brandon Walker presenting an Academic Showcase poster in May 2011.
  - **With Dr. LeMaster**: Rachel Hermanson – who co-authored a poster presented at the Society for Integrative and Comparative Biology meeting in January 2011, and wrote/presented her Honors Thesis about this work in May 2011.
  - **With Dr. Dutton (and Taylor)**: Nicole McLaughlin and Sara Hidalgo, both doing paid collaborative research as student employees.
  - **With Dr. Snyder**: Joe Lewis – who presented an Academic Showcase talk in May 2011.

- **Dr. Baumgartner** led and facilitated an end-of-year (June 16-7, 2011) symposium about BI 101 course redesign, emphasizing alignment to a recent report by the American Association for the Advancement of Science and improved curriculum ownership by all members of the 100 instructional team. In attendance for most of this meeting were: **Drs. Martin, Bledsoe, Snyder, Howard, Latham, and Boomer.**
- In addition to **Dr. Haberman**'s ongoing incorporation of Sea Grant-supported Salmon River Estuary research-driven methodologies in Marine Ecology (BI 361), she and **Dr. Baumgartner** have also integrated a portion of this project into Biological Science for Elementary Schools (GS 311), including bringing teachers-in-training into the field.
- Several Biology Faculty have been involved in advanced teaching/mentoring in association with other universities: **Dr. LeMaster**, who received a courtesy faculty appointment at OSU (2010-present), is serving on the dissertation committee of Emily Uhrig (a former WOU student); **Dr. Baumgartner** completed dissertation committee work for Laurie Strommer (a commitment from her previous position at U. Hawaii-Manoa); **Dr. Snyder**, who continues his faculty appointment at OSU/Dept. of Fish & Wildlife (2001-present), taught 300-level OSU coursework in addition to his full-time load at WOU.
- **Dr. LeMaster** has led educational Human A&P Cadaver lab tours to 9 different regional high schools, providing outreach opportunities to ~240 students. **Dr. Baumgartner** has led educational General Biology and Watershed Ecology programs to 2 different regional high schools, providing outreach opportunities to ~40 students. **Dr. Latham** served as a Faculty Sponsor for a student completing an Honors Chemistry Project at Crescent Valley High School.

B. SCHOLARSHIP

Book Chapters:

- Duncan-Seraphin, K.D., and **Baumgartner, E**. (2010). Your students as scientists: Guidelines for teaching science through disciplinary inquiry. In Yager, R. (Ed). *Exemplary Science for Meeting Societal Challenges*. Arlington, VA: National Science Teachers Association.

Journal Articles:

- Uhrig, E.J., Lutterschmidt, D.I., Mason, R.T., and **LeMaster, M.P.** Pheromonal mediation of intraseasonal declines in the attractivity of female red-sided garter snakes, Thamnophis sirtalis parietalis. *Journal of Chemical Ecology*. Submitted.

- Boomer, S.M. and **Latham, K.L.** Manipulatives-based laboratory for majors biology – a hands-on approach to understanding respiration and photosynthesis. *Journal of Microbiology & Biology Education.* Accepted With Revisions.

- Cox, T.E., **Baumgartner, E.**, Philippoff, J., and Boyle, K. Quantitative description and examination of the tidepool fish assemblage on the island of O'ahu, Hawai'i. *Environmental Biology of Fishes*. Online, 2010.

- **Bledsoe, K.** and Flick, L. Concept development and meaningful learning among electrical engineering students engaged in a problem-based laboratory experience. *Journal of Science Education and Technology*. In Press.

Presentations: *Note – Student Academic Showcase Presentations in Section A*

- Duncan, K., and **Baumgartner, E.** Your students as scientists. Invited presentation in Exemplary Science Practices Symposium at the National Meeting of the National Science Teachers Association. San Francisco, California: March 2011.

- Uhrig, E.J., Hermanson, R., **LeMaster, M.P.**, and Mason, R.T. Evidence for a prevailing role of methyl ketones in mediating reproduction in garter snakes of the Genus Thamnophis. Society for Integrative and Comparative Biology. Salt Lake City, Utah: January 2011.

- Uhrig, E.J., **LeMaster, M.P.**, and Mason, R.T. Evidence for methyl ketones as mediators of reproductive isolation between garter snake species. Society for Northwest Vertebrate Biology. Gig Harbor, Washington: March 2011.

- **Latham, K.L,** and **Boomer, S.M.** Active Learning in an Undergraduate Major-level Introductory Biology Lecture Course. Oregon Academy of Science Annual Meeting. Portland, Oregon: February 2011.

- **Bledsoe, K.** and Kellar, H. OSTA Science Partnerships: Developing a Blended Model of Professional Development. Oregon Academy of Science Annual Meeting. Portland, Oregon: February 2011.

- **Bledsoe, K.**, Gummer, E., and Kellar, H. Oregon Science Teachers Partnership. School Science and Mathematics Association Annual Convention. Fort Myers, Florida: November 2010.

- Klatt, C.J., Wood, J.M., Parenteau, M.N., Miller, S.R., **Boomer, S.M.**, Bryant, D.A., Rusch D.B., Tringe, S.G., Ward, D.M., Inskeep, W.P. Comparative Genomics and Metagenomics of Diverse Phototrophic Microbial Mat Communities: Reconstructing Dominant Ecological Guilds from Sequence Data. TBI/INL/RCN-YNP Metagenomic Analysis Workshop. Jackson Hole, Wyoming: January 2011.

- **Dutton, B.E.**, Dutton, E.K., Taylor, S.B., and Aldrich, P. Application of Spatial Statistics to Latent Print Identifications: Towards Improved Forensic Science Methodologies. 2010 Meeting of the Northwest Association of Forensic Scientists. Portland, Oregon: October, 2010.

- **Dutton, B.E.,** Dutton, E.K., Taylor, S.B., and Aldrich, P. Application of Spatial Statistics to Latent Print Identifications: Towards Improved Forensic Science Methodologies. 24th Annual AFIS Internet Users Group Conference. Portland, Oregon: August, 2010.

- **Dutton, B.E.**, Dutton, E.K., Taylor, S.B., and Aldrich, P. Application of Spatial Statistics to Latent Print Identifications: Towards Improved Forensic Science Methodologies. International Association for Identification 2010 Annual International Education Conference. Spokane, Washington: July, 2010.

C. SERVICE - *External or Student Organizations; Note – Outreach in Section A*

- **Dr. Baumgartner** served as a member of the National Marine Educators Association Ocean Literacy Committee (including consulting on their Teacher Professional Development program), the National Science Teachers Association NSTA Reports Advisory Board, and an invited member of an Advisory Board Exploring Predispositions to STEM among Hawaii High School Students. In addition, she reviewed 3 manuscripts for The Biology Teacher (the publication of the National Association of Biology Teachers).

- **Dr. Bledsoe** served as a section chair at the Oregon Academy of Science, performed educational consulting for the Northwest Evaluation Association, and reviewed manuscripts for several educational journals.

- **Dr. Boomer** has served as a reviewer for different journals in the field of microbiology and was also involved in ad hoc review of two federal grants for the National Science Foundation.

- **Dr. Dutton** was a co-advisor for the Natural Science Club (including leading a major field trip to Moab, Utah over Spring Break), served as an Assistant Editor of the Vasculum, and as a reviewer for Systematic Botany.

- **Dr. LeMaster** was a co-advisor for the Natural Science Club.

APPENDIX 3: Student Achievements

Acceptances to Graduate Professional Programs:

- **Melina Armitage** Western Oregon University MAT Program
- **Mary Matocha** Western Oregon University MAT Program
- **Sarah Daigle** Western Oregon University MAT Program
- **Tyler Orr** Western Oregon University MAT Program
- **Rachel Hermanson** Western Oregon University Special Education Program
- **Michael Petrovich** University of Washington School of Medicine
- **Scott Oeffner** Oregon State University School of Animal Science
- **Chris Coverdill** University of Florida College of Veterinary Medicine
- **Gracie Ferry** University of Alaska School of Nutrition

Acceptances to Undergraduate Professional Programs:

- **Hannah Moreno** University of Idaho-Pocatello Dental Hygiene Program
- **Shandy Avila-Garcia** Oregon Institute of Technology Dental Hygiene Program
- **Lindsay Wegner** Northern Arizona University and OHSU Nursing Program
- **Kristin Warner** University of Portland and Linfield Nursing Program
- **Alice Kirby** University of Portland, Linfield, and OHSU Nursing Program
- **Amber Bernovsky** University of Portland, Linfield, and OHSU Nursing Program
- **Lydia Gust** University of Portland, Linfield, Lane, and OHSU Nursing Program
- **Jenny So** Baker University, Linfield, and Boise State Nursing Program
- **Patty Garcia** George Washington University and OHSU Nursing Program
- **Steven Vetter** OHSU Nursing Program
- **Caitlyn Neeld** Linfield Nursing Program
- **Alisa Blen** Linfield Nursing Program
- **Lauren Ravelli** University of Portland Nursing Program
- **Jasmin Cheyne** OHSU Nursing Program
- **Nicolette Noe** OHSU Nursing Program
- **Melissa Hamrick** OHSU Nursing Program
- **Courtney Hamer** Denver School of Nursing
- **Rachel Sellars** OHSU Nursing Program

Special Recognition – NSM Awards Night:

Outstanding Achievement in Biology & Pre-Professional Studies

Sarah Brattain **Gracie Ferry**

Autumn Hughes **Mary Matocha**

Joe Lewis **Shelley Wimmer**

Outstanding Achievement in Principles of Biology

Ryan Parker **Parisah Moghaddampour** **Elizabeth Mason**