

July 21, 2014

To: Heidi Macpherson, Provost

From: Bruce Riley, Dean
College of Science and Health

Re: AY2013-2014 Year-End Report

What follows (first ten pages) is my summary of activities in the College of Science and Health; more detailed information is presented in the attached departmental summaries for AY2013-14.

Section 1: Success Stories.

The development of a system of standards and practices for assessment of student learning was a major accomplishment within the college. Over a 16-month period, an ad hoc SAH Assessment Committee, led by Sandy Grunwald and working with SAH academic departments, developed a framework for comprehensive college assessment standards and practices that establishes a clear set of assessment goals and objectives, describes data collection and analysis processes, and outlines the ways in which the data is to be used to inform assessment policies, procedures, and program revision. Departments have established assessment plans for its programs and have begun implementation of their plans. The ad hoc committee has also recommended the establishment of a standing college assessment committee with prescribed responsibilities; the college will consider the recommendation this fall.

The strength of the college's academic programs and the quality of the scholarship being done by members of the college is being recognized by external entities via conferences being awarded to/asked to be hosted by UW-La Crosse. For example, in AY2013-14 UW-La Crosse hosted the Midwest Biophysical Society Networking Meeting, the Joint University of Wisconsin-Madison and University of Minnesota-Twin Cities Virology Symposium (the first time the symposium has been held outside these two major universities), the UWS Redesigning Developmental to General Education Mathematics Conference, the Midwest Mathematical Biology Conference, and the Annual Physical Electronics Conference (the first time the conference has been held at a comprehensive university), in 2015 UW-La Crosse will host the biennial conference of the International Society for River Science, and in 2016 UW-La Crosse will host the annual meeting of the Wisconsin Section of the Mathematical Association of America, the Midwest Numerical Analysis Day Conference, and the second biennial Midwest Mathematical Biology Conference.

SAH faculty and staff members have always made good use of university grant funding (curricular redesign grants, faculty development grants, faculty research grants, et cetera), but this year a particularly successful grant supported activity is noted. Approximately 3 ½ years ago, David Riley and Kenny Hunt of the Computer Science Department were awarded a curriculum redesign grant to develop a new general education course, CT 100 Computational Thinking, that focuses on the core ideas of computer science that have become ubiquitous in all

areas of society. CT 100 has now been offered for 3 years and is firmly established as the department's primary general education offering. This last year, Professors Riley and Hunt completed their textbook *Computational Thinking for the Modern Problem Solver* published by Chapman and Hall (one of the first textbooks published on computational thinking). With the CT 100 course and this textbook, the department is clearly at the forefront of a national movement to revise the existing high school AP computer science course and to redefine computer science for a general education audience.

Section 2: Programming and Students.

Programming. Several programs, computer science, mathematics, nutrition, and radiation therapy, completed their academic program reviews. There were no serious areas to address, but the reviews resulted in recommendations for the departments/programs to consider/address; the college will assist in these efforts as appropriate.

UW System and the Physical Therapy Programmatic Accreditation agency approved UW-La Crosse to confer its own DPT degree.

College personnel were involved in the development of new programs, including: the Mathematics Department's implementation of a new major in statistics, and the Exercise and Sport Science Department implementation of an online graduate program in sport administration.

The Recreation Management and Therapeutic Recreation Department established a collaborative two-plus-two degree program in recreation management with UW-Baraboo. The program is a good fit with/complement to the tourism industry in the Baraboo/Wisconsin Dells.

During AY2014-2015, the Microbiology Department is expected to propose a microbiology master's degree program to replace the current microbiology concentration under the M.S. in Biology program (thus, the curriculum and faculty are already in place for a microbiology master's program). It is expected that under the Microbiology master's program, a dual clinical laboratory science (undergraduate)/medical microbiology (graduate) option and a professional master's in industrial microbiology option will be developed.

Departments carried-out several curriculum review/update projects, including: the continued review and revision of mathematics and science curricula as part of the Secondary Teacher Education Preparation (STEP) program; the Chemistry and Biochemistry Department offered two new courses that address deficiencies in their ACS-certified B.S. degree program; the Health Education and Health Promotion Department introduced a new general education course on public health for educated citizens; and the Computer Science offered an "Internet of Things" course that involves a combination of software and hardware design and serves as an introduction to computer engineering.

Regarding next year's curriculum development plans, the Exercise and Sport Science department will continue its development of a coaching concentration for education students, the Geography and Earth Science Department will continue work on revision of its GIS program, and the Recreation Management and Therapeutic Recreation Department will continue revision of its

undergraduate therapeutic recreation program.

The mathematics and science tutoring services offered in the Murphy Learning Center (MLC), which received continuing funding for AY2014-15 from the students' academic initiatives program, continue to serve a significant number of students (student usage of the MLC more than doubled between AY2012-13 and AY2013-14). New MLC director, Lee Baines, also worked with other tutoring services (offered by Student Support Services, Multicultural Student Services, and the Disabilities Resource Center) to better coordinate tutor training and tutoring activities across campus. Continuing funding for AY2015-16 will be applied for next year.

SAH faculty members administer the (externally funded) WiscAMP Undergraduate Research program and the McNair Scholars program at UW-La Crosse. The Wisconsin Alliance for Minority Participation (WiscAMP) is a state organization, housed at UW-Madison, with a mission to increase the number of underrepresented minorities who receive bachelor's degrees in the STEM disciplines. Each year, through a competitive grant application process, WiscAMP has funded the UW-La Crosse WiscAMP Undergraduate Research program. There were six WiscAMP scholars during AY2013-2014 and, this summer, another six WiscAMP scholars are working with faculty mentors on undergraduate research projects in the sciences and mathematics.

AY2013-14 was the fifth year of the UW-La Crosse McNair Scholars program. There were twenty-eight McNair scholars with eleven graduating in AY2013-14; eight graduates applied to and were accepted into graduate programs for AY2014-2015. Twenty program alumni began or continued their graduate studies in AY2013-2014, and two additional alumni will enroll as graduate students for the first time in AY2014-2015. Ten current McNair scholars are working with UW-LA Crosse faculty mentors this summer on undergraduate research projects, and two other scholars were competitively selected as Future Public Health Leaders internships at Columbia University and the University of Michigan.

Related to the McNair program, Professor Haro and Jessica Thill, McNair Program coordinator, secured funding (from the SAH and WiscAMP) for the First Year Research Exposure (FYRE) program. The program employs an informal learning community model in order to improve achievement and retention of first-year students of color at UW-L in the STEM fields. From 2012-2014, the program served 22 eligible students. FYRE students successfully complete general education mathematics and science courses at a higher rate than other UW-La Crosse students of color.

The Statistical Consulting Center (SCC), staffed by a faculty director, Melissa Bingham this year, and students majoring in statistics, provides advice and assistance in various areas of statistics to members of the UW-L campus community. During AY2013-2014, the SCC assisted 47 clients (21 faculty members, 17 graduate students, and 9 undergraduate students) on their research projects. Numerous consultative meetings with undergraduate and graduate students were also held but are not been included in the final client count. Clients were very satisfied with the services offered by the SCC. The Mathematics Department received a UWS economic development/incentive grant to expand the SCC service to external (to the university) clients.

The mathematics and physics faculty developed and implemented several externally funded professional development programs for in-service K-12 teachers that also provided valuable experience for some of our education students working in the programs.

Collaborative programs continue with local high schools. In particular, the Biology Department offers its introductory biology course through Logan (La Crosse) High School, and the Computer Science Department offers its first software design course through West Salem High School.

Students. SAH has strong, well-recognized, academic programs that continue to attract a larger proportion of UW-La Crosse students as displayed in fall enrollment data, showing over 50% of the students at UW-La Crosse are enrolled in SAH programs,

Fall Semester Enrollment by College

	2006	2007	2008	2009	2010	2011	2012	2013
TOTAL	9,922	9,975	9,900	9,890	9,948	10,074	10,227	10,427
College of Business Administration	1,602	1,811	1,829	1,758	1,619	1,601	1,624	1,777
College of Liberal Studies	4,128	4,009	3,822	3,689	3,708	3,524	3,382	3,312
College of Science & Health	4,191	4,155	4,249	4,397	4,591	4,921	5,210	5,320
Other	1	0	0	46	30	28	11	18
UNDERGRADUATE TOTAL	8,345	8,521	8,634	8,748	8,945	9,119	9,441	9,630
College of Business Administration	1,558	1,759	1,775	1,686	1,557	1,537	1,576	1,734
College of Liberal Studies	3,105	3,114	3,125	3,156	3,285	3,170	3,145	3,075
College of Science & Health	3,682	3,648	3,734	3,903	4,103	4,411	4,719	4,817
Other	0	0	0	3	0	1	1	4
GRADUATE TOTAL	1,577	1,454	1,266	1,142	1,003	955	786	797
College of Business Administration	44	52	54	72	62	64	48	43
College of Liberal Studies	1,023	895	697	533	423	354	237	237
College of Science & Health	509	507	515	494	488	510	491	503
Other	1	0	0	43	30	27	10	14
Percent CBA	16%	18%	18%	18%	16%	16%	16%	17%
Percent CLS	42%	40%	39%	37%	37%	35%	33%	32%
Percent SAH	42%	42%	43%	44%	46%	49%	51%	51%

Source: Fall Date of Record Enrollment Tables

Other includes Associate Degree and certain Grad Specials classified as "Grad Studies"

and in summer 2014 freshman orientation attendance, showing nearly 59% of incoming freshmen are interested in SAH programs.

Summer 2014 Freshman Registration/Orientation Attendance								
	9-Jun	11-Jun	13-Jun	16-Jun	18-Jun	20-Jun	23-Jun	TOTALS
CBA	63	63	58	75	3	1	20	283
CLS	35	40	46	47	70	76	61	375
SAC	4	5	3	6	7	8	11	44
SOE	9	16	14	16	19	19	15	108
SAH	165	150	154	143	180	175	189	1156
TOTALS	276	274	275	287	279	279	296	1966

A number of SAH students are pre-professional (pre-allied health and pre-medicine) students that place high demand on general biology, general chemistry, general physics, foundational mathematics and statistics, human anatomy and physiology, and genetics courses. Monitoring and responding to these demands as well as to a shifting mix of students (for example, the increases in exercise science pre-professional and decreases in physical education teacher education majors in ESS) are a priority of academic departments and the college.

The quality of instruction provided in SAH programs, and the hard work and talent of SAH students, is suggested by the success of students on national professional certification examination scores: 100% pass rate for clinical laboratory science, medical dosimetry, nuclear medicine technology, radiation therapy, occupational therapy, physical therapy, and physician assistant students; and over 90% pass rate for athletic training and community health education students.

Over 250 undergraduate and over 150 graduate students conducted research projects during AY2013-2014. Students presented the results of their work through a variety of venues, including:

- Three students from the Geography and Earth Science program gave presentations at the Annual Meeting of the Association of American Geographers, and two geography students presented at the West Lakes Region Meeting of the Association of American Geographers;
- A community health graduate student published her thesis in the International Electronic Journal of Health Education;
- Fifteen nuclear medicine technology students presented research results at the Annual Meeting of the Society of Nuclear Medicine, and six physical therapy students gave research presentations at section meetings of the American Physical Therapy Association and the American College of Sports Medicine;
- Three microbiology undergraduate students gave poster presentations at the American Society for Microbiology General Meeting, and two graduate microbiology students gave poster presentations at the annual meeting of the American Association of Immunologists;
- Mathematics students gave posters and oral presentations at the Annual Meeting of the Wisconsin Section of the MAA, and four mathematics education students gave presentations at the Wisconsin Math Council's annual conference; and
- Twenty-four SAH students gave presentations at NCUR 2014.

Recognitions. Many SAH students were recognized for their activities/accomplishments, including:

- Both 2014 Murphy Awards for Academic Excellence were awarded to SAH graduates: Elizabeth Camenga graduated in May with a bachelor's degree in physics with biomedical concentration; and Stefanie Sippl graduated in May with a bachelor's degree in biochemistry;
- The Strzelczyk Award in Science and Health was awarded to Anthony Brandt who graduated in May with bachelor's degrees in biochemistry;
- Sachin Padhye, Master of Software Engineering, and Charles Vannatta, Doctor of Physical Therapy, were selected to receive UW-La Crosse Graduate Student Achievement Awards;
- Biology students Yer Lor, Kaitlyn Midema, Robert Mooney and Patty Ries received best student presentations at the Midwest Chapter of the Society of Environmental Toxicology meeting, UW System Symposium for Undergraduate Research and Creative Activity, Society for Freshwater Science meeting, and Mississippi River Research Consortium meeting, respectively;

- Biology graduate student Amber Miller was awarded an NSF Predoctoral Fellowship;
- Geography undergraduate student Terri Beal has been accepted to be a paid intern for the National Geographic Society in Washington D.C.;
- Physics student Hayden Peterson received a Wisconsin Space Grant Consortium undergraduate research fellowships; and
- Recreation management graduate student Tommy Means was named an Academy of Leisure Sciences Future Scholar.

Section 3: Staffing, Resources, and Facilities.

College Staffing. Seventeen tenure-track faculty and five instructional academic staff members joined the college in August 2013.

- The new staff increased departmental expertise in targeted areas of study, and provided several departments with opportunities to offer additional sections of high demand courses and laboratories.
- The new staff helped lighten the workload on continuing staff and, with the increased staff, some departments were able to provide faculty with some reassigned time to devote to scholarly activities (more departments need to examine how they might use reassigned time in this way).
- Based on first year reviews, the new faculty did quite well in the areas of teaching and scholarship during their first year at UW-La Crosse.
- Fifteen of the new faculty members participated in the College's early start program for grant proposal writing (during the month of August 2013). The results of the grant writing activity are displayed in an attachment. I do note that fourteen of these first year faculty members had UW-L Faculty Research Grant proposals funded for summer 2014; so the new faculty members did make effective use of the early start program - grant writing time and support/training they received from their departmental colleagues and from the Office of Research and Sponsored Programs staff.

During the year, twelve faculty and twelve instructional academic staff members were hired to begin in AY2014-15 (eleven of these are GQA funded positions). These new hires fill consequential needs in the college including the areas of athletic training, bacterial physiology, biology, chemistry, computational mathematics, discrete mathematics, exercise physiology, exercise science, genetics, mathematics, mathematical analysis, mathematics education, medical dosimetry, nuclear medical technology, physical geography, physical therapy, physician assistant, recreation management, sport administration, and therapeutic recreation. In addition to meeting departmental needs, including scholarly collaboration within departments, many of the positions were developed to increase the potential for scholarly collaboration across departmental lines. There are still two instructional academic staff position searches in the area of biology underway with hopes of filling the positions this summer. Finally, there were five failed searches during the year.

In AY2013-2014, there were two retirements in each of the Exercise and Sport Science and Microbiology Departments, and one retirement in the Recreation Management and Therapeutic Recreation Department, there were two resignations in each of the Biology and Chemistry

Departments, and one resignation in each of the Geography and Exercise and Sport Science Departments. Another position in Geography will be open because of a non-retention decision and two to three retirements are expected in AY2014-15. One of the retired microbiology positions was filled during the year and it is hoped that one of the resigned chemistry positions (a laboratory manager position) will be filled this summer for fall 2014.

During AY2014-15, the college plans to search for sixteen-seventeen (eight-nine tenure-track faculty and eight IAS) positions. Thus, faculty recruitment will be a major activity in the college during the next academic year.

College Finances/Supplies and Expenses/Facilities. The college was able to invest one-time salary savings dollars to meet needs in the college, including:

- Provide supplemental S&E help to several departments;
- Replace and upgrade equipment used in teaching laboratories (much of this equipment will also be used for faculty and student research projects, and is often referred to as institutional resources available to grant proposal projects);
- Replace faculty computers and computers in departmental computer laboratories;
- Fund small classroom/laboratory modernization projects;
- Supplemental travel and professional development funding for faculty and staff; and
- Matching funds for grant proposals.

Equipment needs were identified by departments in memoranda and classroom/laboratory modernization proposals sent to the college office, and in an inventory of equipment owned by the college conducted by the SAH College Committee.

Renovation work (research laboratories in Mitchell Hall and a teaching laboratory in Cowley Hall) is being planned for AY2014-15. Additional, planning/renovations will be required to accommodate the new faculty that will be hired to begin in AY2015-16.

The design process for the Cowley Hall/New Science Building Project is beginning this summer and will continue for two years; followed by two years of construction for Phase I (the laboratory phase) of the project. Faculty members were pleased with the comprehensive pre-design program report, and look forward to the next two-year design phase of the project.

Scholarly Activities. SAH faculty members were successful in their external contract and grant writing efforts: 12 contracts, 27 federal grant proposals, and 5 non-federal grant proposals were funded totaling nearly \$2.5 million in direct and indirect funds coming to the university. In addition, 28 grant proposals are still pending with the potential of over \$6 million in direct and indirect dollars.

In AY2013-14, SAH faculty members were quite active (and successful) in the area of scholarship with over 110 research publications, 7 books, over 250 talks at professional meetings, 3 patents and 2 more patent applications, and mentoring work with over 250 undergraduate and over 150 graduate students on research projects.

Service Activities. Members of the college have a strong record of university and professional service. For example, the chair (and two other members of the executive committee) of the Faculty Senate and the chairs of fourteen Faculty Senate committees were SAH members, and the Mathematics Department's ADA served as vice chair of the Classified Staff Council. Beyond our own institution, college members held leadership positions in professional organizations and the organization of professional conferences, refereed and reviewed research papers and book chapters, reviewed grant proposals, and served as consultants to other academic institutions or professional organizations. SAH faculty, staff, and students were also actively involved in professionally related service with area schools, health care institutions, and civic and other community organizations.

Recognitions. Many SAH members/units were recognized for their professional activities/ accomplishments, including:

- Mark Gibson, Athletic Training, was inducted into the National Athletics Trainers' Association Hall of Fame;
- Garth Tymeson, Physical Education, won the Congressional Award given by the National Consortium on Physical Education and Recreation for Individuals with Disabilities.
- Roger Haro, Biology, received the 2014 UW System Board of Regents Diversity Award;
- Robert Jecklin, Community Health Education, was selected for a Fulbright award to Azerbaijan; and
- Jeffrey Bryan, Chemistry, Scott Doberstein, Exercise Science, and Gregory Sandland, Biology, were selected as 2014 Provost Teaching Award recipients;

Section 4: Outreach Activities.

SAH faculty and student community engagement focus on service programs in the areas of adult fitness/cardiac rehabilitation, adventure education, mathematics and science education enhancement programming, motor development, and wellness and recreational programming on campus and in community and business organizations, public schools, and senior and assisted living facilities.

Inclusive Excellence. SAH faculty and staff members were engaged in activities consistent with the goals of inclusive excellence, for example:

- Faculty members are involved in mentoring minority students in the previously mentioned FYRE, McNair, and WiscAMP programs;
- SAH faculty members participated in underrepresented minority student recruitment programs in collaboration with the Admissions Office and with their professional organizations;
- SAH faculty members were actively involved in women in science programs on campus and at the state level;
- College staff participated in (and the college office supported) supplemental instruction programs for STEM courses in collaboration with Multicultural Student Services;
- Inclusive excellence topics and speakers were incorporated into courses and seminars, and academic programs offered service-learning opportunities that address issues of vulnerable populations.

International. SAH faculty international activities include presenting research results at international conferences and universities, and engaged in collaborative research with international scholars both abroad and on campus (for example, the Computer Science, Exercise and Sport Science, Health Professions, and Recreation Management and Therapeutic Recreation Departments hosted visiting international scholars during AY2013-14).

SAH faculty/departments also offered international academic programs, including:

- The Computer Science department continues to develop MSE contract programs for international students. The newest contract involves a 3+2 program with the South Central University for Nationalities with the first cohort of 10 students arrived at UW-La Crosse in fall 2013;
- Athletic training faculty taught athletic training skills in Germany, and clinical exercise physiology faculty taught coursework in the Netherlands;
- Suzanne Anglehart led a January 2014 international study trip to learn about rural healthcare in India; and
- Gretchen Gerrish and Greg Sandland, Biology, led an international study trip teaching a marine symbioses field course in Belize in January 2014.

Section 5: AY2014-15.

In the prequel, I mentioned several activities for the next academic year:

- Continue the work on college wide assessment of student learning processes;
- Curriculum implementation, revision, and development projects;
- Monitoring and addressing issues posed by the changing mix of UW-La Crosse students (in particular, the increasing number of pre-professional students);
- Faculty recruitment;
- Cowley Hall/Science Building Project design activities;
- Addressing near future space needs in Cowley Hall and Mitchell Hall; and
- Securing continuing funding for the Murphy Learning Center.

In addition, I place high priority on:

- Mentoring the new(er) faculty as needed;
- Continue to find ways to support faculty/staff scholarship and professional development activities;
- Addressing faculty/staff salary inversion/compression issues;
- Continue the work started by departments on the development of (five year) departmental academic plans (with the large number of SAH faculty hires over the past few years, departmental priorities are shifting and the development and review of departmental academic plans would contribute to strategic planning at the college level); and
- Continue to develop and use the college's student program/course pipeline analysis (the analysis will contribute to strategic planning within the college and, perhaps, to the university's enrollment management planning).

Finally, I will continue to work help department reach resource levels at Delaware median levels. The following tables display S&E and instructional departmental needs to reach Delaware median resource levels. The estimates are based on AY2013-14 student credit hour production and Delaware Study data results from 2009.

The S&E estimates are likely to be too low because current S&E funding per SCH is likely to be higher now than in 2009.

Needs Analysis: Supplemental S&E Allocation for Median Delaware								
Department	Delaware CIP 4'S	Combined FY14 SCH	Combined Delaware \$/SCH	Delaware Median Target S&E	FY15 RedBook 102 S&E	FY15 RedBook 131 S&E	Total FY15 RedBook S&E	Allocation Needed for Median
BIO	26.00	22,442	\$14.70	\$329,898	\$143,844	\$124,688	\$268,532	\$61,366
CHM	41.05	14,876	\$17.28	\$257,057	\$142,783	\$78,551	\$221,334	\$35,723
CS	11.07	4,475	\$13.40	\$59,965	\$34,826	\$49,069	\$83,895	(\$23,930)
ESS	31.05	21,520	\$9.40	\$202,288	\$82,703	\$44,253	\$126,956	\$75,332
GEO	40.06, 45.07	5,744	\$5.70	\$32,738	\$35,498	\$12,886	\$48,384	(\$15,646)
HEHP	13.13, 51.22	5,624	\$7.05	\$39,628	\$33,911	\$22,693	\$56,604	(\$16,976)
HP	51.00, 51.09, 51.23	13,173	\$20.94	\$275,828	\$101,929	\$418,149	\$520,078	(\$244,250)
MIC	26.00, 51.10	5,918	\$13.97	\$82,685	\$71,201	\$21,734	\$92,935	(\$10,250)
MTH	27.00	22,917	\$2.98	\$68,293	\$19,498	\$27,871	\$47,369	\$20,924
PHY	40.08	7,197	\$13.02	\$93,705	\$40,281	\$23,636	\$63,917	\$29,788
RMTR	31.03, 51.23	8,382	\$14.84	\$124,382	\$38,737	\$38,733	\$77,470	\$46,912
TOTAL								\$270,045
DOES NOT INCLUDE REMEDIAL OR CEE								

For the position demand table, I note that the AY2013-14 SCH production was accomplished with fewer IFTE that the FY15 Redbook FTE, since a number of the positions were vacant/being searched in AY2013-14. Thus, the FY14 staff was quite overloaded according to the Delaware data.

Needs Analysis: Positions for Median Delaware																
DEPT		PRGM	AY14 AVG SCH	DEL QUANTILES SCH/FTE			POSITIONS NEEDED TO ATTAIN			FY15 REDBOOK FTE				POSITION DEMAND TO ATTAIN		
				25%	50%	75%	TOP 25%	MID	BTM 25%	AS	FA	TA	TOT	TOP 25%	MID	BTM 25%
BIO			10,844	196	247	326	55.3	43.9	33.3	8.5	29.0	3.0	40.5	14.8	3.4	(7.2)
CHM			7,042	192	231	289	36.7	30.5	24.4	10.0	19.0		29.0	7.7	1.5	(4.6)
CS			2,217	138	218	236	16.1	10.2	9.4		10.5		10.5	5.6	(0.3)	(1.1)
ESS			9,779	178	233	294	54.9	42.0	33.3	13.0	19.0	1.0	33.0	21.9	9.0	0.3
GEO			3,246	237	310	350	13.7	10.5	9.3	1.0	10.0		11.0	2.7	(0.5)	(1.7)
HEHP			2,898	156	254	329	18.6	11.4	8.8	2.0	9.6		11.6	7.0	(0.2)	(2.8)
HP		DOS	432	118	155	214	3.7	2.8	2.0	2.0			2.0	1.7	0.8	0.0
HP		NMT	320	118	155	214	2.7	2.1	1.5	1.6			1.6	1.1	0.5	(0.1)
HP		OT	835	149	177	198	5.6	4.7	4.2	5.0	1.0		6.0	(0.4)	(1.3)	(1.8)
HP		PA	641	118	155	214	5.4	4.1	3.0	4.0			4.0	1.4	0.1	(1.0)
HP		PT	1,801	149	177	198	12.1	10.2	9.1	4.5	6.0		10.5	1.6	(0.3)	(1.4)
HP		RT	425	118	155	214	3.6	2.7	2.0	2.0			2.0	1.6	0.7	(0.0)
MIC			2,899	181	240	314	16.0	12.1	9.2	3.9	8.0		11.9	4.1	0.2	(2.6)
MTH			11,041	226	290	337	48.9	38.1	32.8	4.0	29.5		33.5	15.4	4.6	(0.7)
PHY			3,461	171	207	288	20.2	16.7	12.0	3.5	10.0		13.5	6.7	3.2	(1.5)
RMTR			4,102	190	212	235	21.6	19.4	17.4	5.0	9.5		14.5	7.1	4.9	2.9
TOTAL							340.8	265.6	215.1	70.5	161.1	4.0	235.6	105.2	30.0	(20.5)
DOES NOT INCLUDE REMEDIAL OR CEE																

Summary of Annual Activity 2013-2014

Biology Department

Section 1: Students and Programming

Implementation of BIO 203 (Organismal Biology) and elimination of BIO 204 (Plant Biology) and BIO 210 (Animal Biology) as required courses for the major occurred in AY 2013-2014. The transition occurred smoothly with 238 and 266 students enrolled in BIO 203 in fall and spring; in BIO 204 and BIO 210 there were 128 students enrolled during fall, but only 53 enrolled in spring. For fall 2014, 239 students have enrolled in BIO 203; BIO 204 and 210 will not be offered. Eight Biology faculty and staff received a Curriculum Redesign Grant to infuse more active learning and critical thinking into the BIO 203 labs. These changes were developed in Summer 2013 and implemented Fall 2013. Both faculty and students expressed greater satisfaction with the laboratory experience after incorporation of the new laboratory exercises.

Four faculty and staff (Litster, Redman, Paluch, Ellis) received a Curriculum Redesign Grant to revise and create new laboratory exercises for BIO 103 (Introductory Biology). Although BIO 103 is currently applicable to the biology major, we intend to make this course for non-majors only and not allow it to be applied toward degree requirements for the major.

Assessment of the Evolution Across the Curriculum program was undertaken this past year. Twenty-three new evolution learning modules were incorporated into 9 core Biology courses (including Anatomy and Physiology). Assessment included pre- and post-tests specific to each class and administration of a similar set of 30 questions to students in both General Biology (BIO 105) and senior Capstone Seminar (BIO 491). Scores of seniors on standardized questions were 2 standard deviations greater than the mean score of freshman; the department benchmark for success was at least one standard deviation improvement in score. As this is not longitudinal data, we expect continued improvement as students are exposed to all core courses with new evolution content.

Section 2: Staffing, Resources, and Facilities

We welcomed two new tenure-track faculty members, Eric Snively and Todd Osmundson, and a new instructional academic staff member, Darby Oldendburg. We hired Sierra Colavito to teach genetics beginning fall 2014. Regrettably, Darby Oldenburg and Kathryn Perez resigned their positions at the end of spring 2014 and searches have been initiated to replace them; Dr. Perez will not be replaced until fall 2015. In addition, we have initiated a search for a new lab manager position (IAS) for BIO 103/105.

Anita Baines and Tisha King-Heiden were recommended for promotion to Associate Professor by JPC; Meredith Thomsen received the recommendation for promotion to Full Professor. Drs. King-Heiden and Perez were recommended for tenure. Greg Sandland received a 2014 Provost Teaching Excellence Award.

Despite very tight state and federal budgets for research, faculty and staff maintained their scholarly productivity. They received or worked on existing teaching grants totaling \$2,064,200 – 11 UWL internal (\$35,600) and 4 external (\$2,028,600). Biology faculty and staff were PIs or co-PIs on 11 internal research grants (\$111,251) and 18 external research grants (\$2,401,940). In addition, there were 7 grants (\$65,342) for service-related activities.

Biology faculty authored 26 peer-reviewed publications or book chapters; 4 of these publications focused on SOTL. Faculty and staff authored more than 100 presentations at regional, national, and international science conferences. Many publications and most presentations had undergraduate or graduate student co-authors.

Section 3: Outreach Activities

Greg Sandland and Gretchen Gerrish taught a J-term 2014 course on Marine Symbioses in Belize to 18 UWL undergraduate students. Tim Gerber and Peg Maher are currently in Scotland investigating opportunities for teaching UWL students abroad in summer 2015.

Aquatic science faculty are leading the organization and hosting of the biennial conference of the International Society for River Science at the La Crosse Center in August 2015. This conference will bring together 300 to 600 national and international scientists from the physical, natural, and socio-economic sciences.

Barrett Klein offered a STEAM workshop on the “The Art & Science of the Insect” to area educators through the Office of Continuing Education and Extension.

Two faculty (Haro, Sandheinrich) are serving on the Inclusive Excellence Strategic Planning Workgroup and several staff have been committed to working with students in the First Year Research Experience (FYRE) program.

Section 4: Plans, Focus, Challenges, and Opportunities for 2014-2015

The Department completed and approved major revisions to the department bylaws. A focus this year will be developing and implementing a five-year planning and goals document and preparing for our academic program review site visit in fall 2015. In addition, we will begin developing a new, integrated set of learning outcomes for the Biology program and revise the departmental assessment program to address appropriate outcomes

As identified in last year’s summary, our biggest challenges continue to center around providing enough lab and lecture sections for the largest major on campus. In fall 2013 there were 1182 Biology major and 107 Biology minors. This was a 5% increase from fall 2012. In addition, elimination of the lab from ESS 206 has resulted in an increasing number of students wishing to enroll in BIO 312/313. With college support, this spring we implemented enrollment limits to the various programs outside biology on the number of pre-professional students that we could enroll each year in BIO 312/313. This seems to be the fairest way to allocate an oversubscribed resource. For the biology major, we are offering 3 more laboratory sections of Genetics in AY 2014-2015 than we offered in 2012-2013 and we will be shifting use of teaching laboratories to offer additional laboratory sections of Cell Biology. In addition, we have developed several additional elective courses (e.g., Animal Behavior, Mammalogy) to increase opportunities for a diverse student body.

To effectively assess the Biology program we will be reassigning one faculty member (Howard) 3 contact hours to head and coordinate assessment after we hire a new IAS lecturer. In addition, Anne Galbraith will be reassigned 3 contact hours to take on more advising responsibilities within the department.

Summary of Annual Activity 2013-2014

Chemistry and Biochemistry Department

Section 1: Students and Programming

As part of the Department's ongoing external review and certification process by the American Chemical Society–Committee on Professional Training (ACS-CPT), two new courses–new degree requirements for the ACS-certified chemistry major (**CHM 231, 271**)–were offered for the first time, during the fall 2013 semester. In late spring we received notification from the ACS-CPT that we were to be moved off probationary status, and that our new ACS-certified B.S. curriculum is now fully accredited. We also made extensive changes to our **biochemistry major curriculum** in consultation with the departments of BIO and MIC, and these were formally approved by the UCC in spring 2014. These changes involved the creation of a new upper-level biochemistry laboratory course, **CHM 419–Advanced Biochemistry Lab**, which is to run for the first time in spring 2015. One upper level elective course, **CHM 405–Advanced Synthesis Laboratory** was created and approved by the UCC. This course will run for the first time in spring 2015.

We continued to increase embedded writing and oral communication assignments throughout our curriculum, and expanded the assessment of these skills. We spent a large amount of time redrafting our departmental student learning outcomes (SLOs) and conducting new additional assessment activities and reporting. Our biochemistry laboratory courses were further modernized, employing several pieces of new equipment and instrumentation acquired with last year's "one-time monies." Similarly, we added new instrumentation and protection plans to our "instrumental analysis" lab. At the CHM 103-104-301 levels, several faculty members revised instructor's guides for the laboratories as well as video tutorials for student use prior to entering the labs. These enhance student learning and understanding as well as safety.

Faculty members collectively mentored **57** undergraduates in independent research projects and co-advised **12** MS degree candidates (from BIO and MIC). We secured **\$19.5k** in internal teaching development grants this year. The department awarded approximately **\$25k** in scholarships to its majors. We continued a second year of our Visiting Seminar Speaker series that brought one chemist to campus each month using Foundation funds. These were very well received and attended by our majors, minors and faculty members. Biochemistry majors won two of the top graduating senior awards on our campus–**Stefanie Sippl** received the Murphy Award, and **Anthony Brandt** received the Strzelczyk Award.

Section 2: Staffing, Resources, and Facilities

We welcomed one new tenure track faculty member, **Nick McGrath** (GQA), our new organic chemist/chemical biologist, and he had a very productive first year. We ran one successful search that led to the hiring of an IAS biochemist, **Dr. Basudeb ("Basu") Bhattacharya** (102), as a replacement for **Melissa Anderson** who resigned in late May 2013. IAS member, **Derek Salter**, and NIAS Laboratories Manager, **Laura Roessler**, both resigned this year. We are running a search for Roessler's replacement this summer, and will search for Salter's replacement over the coming AY. Temporary hire, **Ms. Hayley Hudson** will be covering Salter's course load for the 2014-15 AY. Two chemists (**Adrienne Loh** and **Kris Rolfhus**) were away on sabbatical leaves during fall and spring of 2013-14, respectively. Two other chemists (Heather Schenck and Aric Opdahl) were granted sabbatical leaves for the 2014-15 AY, one per semester. **Dr. George Hudson** was hired as a temporary sabbatical replacement for the 2013-15 two-year period.

One unsuccessful promotion portfolio was advanced for **Nadia Carmosini** (to Associate Professor). One IAS member, **Kate Friesen**, was promoted to Lecturer. **Jeff Bryan** won one of the second annual Provost's Teaching Excellence Awards, which was well deserved. Several other chemists were nominated for this award, and others were nominated "most accessible faculty" awards from Students Advocating Potential Ability.

Scholarly activity and success continues to be strong. Department members collectively wrote several grant proposals for external and internal funding and were fortunate to receive some good awards this year, despite a tight federal funding environment. Over **\$2M** in existing multi-year external grants were managed and brought to completion. Over **\$2M** in external funding was requested this year, and some of these proposals are either still under review or went unfunded. Funded external grants totaled **\$555k**. Chemists netted **\$73k** in internal UW-L research and faculty development grants. Department members and their students made **45** scholarly presentations at a range of professional conferences. Chemists collectively published **7** peer-reviewed manuscripts, **2** provisional patent applications, and **4** professional books/reports. Three patent applications were granted to chemists and their collaborators. Numerous peer reviews of manuscripts and grant proposals were completed.

A number of department members were busy prioritizing needs, obtaining quotes, making purchases, setting up new instruments and equipment, and learning to use these items as a result of three rounds generous "one-time funding" for "major purchases." Approximately **\$108k** in acquisitions this year helped to modernize our teaching and research infrastructure and enhance inter-departmental collaborations.

Section 3: Outreach Activities

In addition to normal teaching loads, several faculty members hosted special outreach teaching workshops for primary and secondary schools, which include the Young Scholars, Mississippi Valley Gifted and Talented Network, and Girls in Science programs. Demonstrations were delivered in several local schools, and we also put on these "Chemistry Magic" shows for busloads of students at the ends of each semester.

We continued to offer the year long CHM 103–*General Chemistry I* course for advanced West Salem HS students (the eighth time), and HS students often visit our Radiation Center and NMR Instrumentation Facility for demonstrations. Chemists also continue to offer special laboratory safety training and testing for all Cowley Hall departments three times throughout the year. We have expanded our student tutoring hours in the Murphy Learning Center and now provide coverage for all of the courses in the first two years of our major and minor curricula. Two staff members, along with some students created an instructional video for how to succeed in college chemistry courses. This may help students who are less well prepared.

Chemistry faculty members were generally widely engaged in service and university governance at all levels, with a number of us in leadership positions. Likewise, most department members were active in various forms of professional and community service.

Section 4: Plans, Focus, Challenges, and Opportunities for 2013-14

In the spring of 2015, we will run two new courses for the first time. We hope to continue seeking "American Society of Biochemistry and Molecular Biology (ASBMB)-Recognized" status for our biochemistry program, which will allow us to offer a more prestigious "ASBMB-

Certified” BS degree in biochemistry. We will engage in more detailed planning for the design and move into a new science building, and hope to continue our instrumentation upgrade and maintenance efforts, as funding permits. We’ll continue our development of a mission statement and do more long range strategic planning.

Staffing. We will need to hire and train replacements for Laura Roessler and Derek Salter. In addition, we have a strong desire to add one additional **tenure-track biochemistry faculty member** to our ranks. This would increase our research, advising, electives development, and other support to the biochemistry major, which has more students in it than our chemistry major. We have only **3** tenure track biochemists and **1** IAS for approx. **140** biochemistry majors, as compared with **16** tenure track chemists and **8** IAS for approx. **120** chemistry majors. We are unable to cover all of the planned biochemistry course offerings in our curriculum and to serve the many students seeking research opportunities. Finally, we could easily employ a new GQA IAS member who would primarily teach *General Chemistry* and *Analytical Chemistry* laboratories and help us to meet student demand there. These low level courses are beginning to fill with more upperclassmen. Also, lecture sizes in CHM 301 have crept up to 120, so we would like to split that into two smaller sections.

Challenges. Of course, our main problem continues to be space. We operate well beyond capacity in Cowley Hall in both teaching and research and do not seem to be able to meet student demand for our (laboratory) courses. Additionally, many parts of the building continue to fail, and we repeatedly need to use department and college funds to make repairs and conduct maintenance. Water supplies, ventilation, plumbing/flooding, and general crowding are the main problems. All of these should go away with the new Cowley Hall, but we struggle to deliver quality services to our students and to do good work under the present conditions. As we consider moving into the new science building, it will be important to remember the need for interdepartmental collaborative (research and equipment) spaces, such as the visualization center, materials analysis center, and institute for biomolecular sciences.

Summary of Annual Activity 2013-2014

Computer Science Department

This summary focuses on notable department activities for the year 2013-14.

The department continues to see strong enrollment in the computer science major consistent with national trends. Enrollments in the three course introductory sequence are the highest they have been since 2000. Employment prospects remain very strong with essentially 100% of graduates finding employment in the field. The department continues its outreach activities including participation in the local Job Expo for high school students and the offering of our CS 120 course at West Salem High School.

The department has continued to focus on the introductory software design sequence (CS 120, 220, 340). For several years the department has been concerned about the role of discrete mathematics in the curriculum. For the purposes of the computer science major it is preferable that students take a course in discrete mathematics in parallel with CS 220. This has been at odds with the needs of the Mathematics Department's discrete mathematics course (MTH 225). Consequently, in consultation with the Mathematics Department the Computer Science Department began to offer this spring its own discrete mathematics course (CS 225). The department expects that this will improve our ability to build upon discrete mathematics concepts in the introductory software design sequence and better organize the sequence of topics.

CT 100 (Computational Thinking) has now been offered for 3 years and is firmly established as the department's primary general education offering. This last year Profs. Riley and Hunt completed their textbook "Computational Thinking for the Modern Problem Solver". This text focuses on the core ideas of computer science that have become ubiquitous in all areas of our society. With the CT 100 course and this text, the department is clearly at the forefront of a national movement to revise the existing high school AP computer science course and to redefine computer science for a general education audience.

This last year saw the first cohort of students from the South Central University for Nationalities (SCUN) under the new 3+2 format. Eight students completed their first year and will return next fall to finish course and capstone requirements. The second cohort (12 students) will begin their first year of the program this next fall. This last year there were also five contract students from Wuhan University.

Two significant grants were made to members of the department this last year. Professor Gendreau, in collaboration with researchers at Marquette University received an NSF grant for "CS 10K: Collaborative Research: Priming the PUMP - Preparing the Upper Midwest for Principles in Computer Science" (total award ~\$1M). This is an outgrowth of Prof. Gendreau's work for several years involving outreach to high school teachers. Prof. Hursey received an equipment grant from Cisco Systems (~\$250K) to support his research in high performance computing.

The department continues to offer timely new curriculum. This last spring the department offered an "Internet of Things" course as a special topic. In recent years "The Internet of Things" has been used to describe a range of ideas built upon the presumption of embedding identity, sensors, communication and computation into objects. The course explored the possibilities created when everyday things become connected to the internet and how this can create new ways for humans to interact with computation. This was a significant departure for the department since it involved a combination of software and hardware design. Students were able to prototype

hardware that integrated computation, communication and sensors. From the prototype hardware they would create circuit board design, have these fabricated and then assemble the parts on the boards.

Several students received special recognition this year. Thomas Lynch, Zack Erickson and Thong Le received Undergraduate Research & Creativity Grants. Sachin Padhye received a Graduate Achievement Award. Krista Schultz Miller as part of an independent study project worked with the Wisconsin Music Teachers Association to develop software to support their audition process. The WMTA was so pleased with the result they made a donation to the department. Zack Erickson was chosen to participate a summer TRUST REU in Cybersecurity, Privacy and Trustworthy System at UC - Berkeley. Amy Higgins was chosen to participate in a summer internship with Google.

Summary of Annual Activity 2013-2014

Geography and Earth Science Department

The 2013-2014 academic year brought more changes to the Department of Geography and Earth Science. Dr. Daniel Sambu joined the department in fall 2013. Faculty have continued to contributed significantly to research, with peer reviewed publications, conference presentations and grants received. Faculty are very involved in innovating teaching pedagogy and materials, supervising undergraduate research, university and professional service, and community outreach. Two resignations were submitted, Dr. Ian Muehlenhaus and Birgit Muehlenhaus (GIS lab manager). Dr. Rafique Ahmed announced his retirement effective the end of the fall 2014 semester.

Section 1: Success Stories

The department has been very successful in research, with 8 peer-reviewed papers and one peer-reviewed book chapter (co-authored with two students) published and 4 accepted for publication. The faculty received \$34,139 in funding. Three faculty presented papers at international conferences.

A successful search was conducted for the physical geographer position. The department hired Paul Reyerson, Ph.D. from UW-Madison. He will be an excellent addition to the department.

Dr. Cravins led the department's international outreach efforts with his trip to Cuba in August 2013, where he explored potential collaborations between UW-L and Cuban institutions, including the University of Havana.

The department had a very successful first GIS Research Celebration and Poster Competition (December 6, 2013), organized by Dr. Chaudhuri. Over 20 students in GIS presented research posters at the Cartwright Center. The purpose of the celebration was to enhance student participation in GIS and to reach out to the university at large about GIS and its applications.

Section 2: Students and Programming

1. Student accomplishments:

The Geography faculty are actively involved in supervising and advising students on undergraduate research projects.

Two students (Steven Oxley and Scott Wenzlaff) co-authored a peer-reviewed book chapter (pub: Springer) with Dr. Chaudhuri on mapping liquor law violations in La Crosse.

Five students presented research at conferences this past year, including 3 presentations at national conferences, 2 presentations at regional conferences, and 3 presentations at the UW-L Undergraduate Celebration of Research and Creativity. These include presentations at: the Annual Meeting of the Association of American Geographers in Tampa, Florida; National Council on Undergraduate Research in Kentucky; Regional meeting of the West Lakes Region of the Association of American Geographers in Eau Claire, WI; Mississippi River Research Consortium, La Crosse; and the UW-L Undergraduate Celebration of Research and Creativity.

2. Programming:

The Environmental Science Concentration continues attract the most majors to the department. This is a positive outcome of past curriculum revisions for this concentration. The department

plans to increase enrollment and maintain a strong GIS Concentration. Drs. Chaudhuri and Muehlenhaus received a curriculum re-design grant for the 2013-2014 academic year. The GIS curriculum was assessed this year, and major revisions were developed. These changes have been recently approved by the department and will be submitted in early fall 2014 semester, to begin in stages during spring 2015 and fall 2015. Staging the implementation of the changes will allow the department to move current students through the existing program without disruption to their plans, while new students enter the program as the changes become effective.

Section 3: Staffing, Resources and Facilities

1. Staffing:

Dr. Daniel Sambu joined the department in August 2013. Dr. Sambu has a Ph.D. in Geography from the University of Oklahoma. His specializations are in geographic education, water resources and environmental sustainability.

The department hired Paul Reyerson, Ph.D. from UW-Madison into the physical geographer position. He will start in August 2014. His specializations include soil science, geomorphology and landform development.

Dr. Ian Muehlenhaus notified the department that he accepted a position at James Madison University starting the end of August 2014. Dr. Muehlenhaus has expertise in geovisualization, web mapping, cartography and GIS. Much of his expertise is not duplicated in the department, and thus this represents a serious loss to our students and colleagues. He had a major influence on recruiting students into the department and maintained a dynamic research program.

Birgit Muehlenhaus, the GIS lab manager, also announced that she would be leaving at the end of June. It will be critical to have a new lab manager by the start of the fall 2014 semester. The department looks forward to conducting a search for her replacement.

2. Scholarship and Grants:

Faculty in the department maintain a dynamic scholarship program, collaborating this year with colleagues at UW-L in the Departments of Biology and Chemistry, and in the River Studies Center. Faculty also have established and/or maintained external collaborations with numerous other universities and organizations, including the Upper Midwest Environmental Sciences Center, U.S. Geological Survey, National Park Service, the American Geographical Society, and the National Great Rivers Research and Education Center.

Faculty were active in research publication. The following peer-reviewed research was published this year:

- 8 academic journal papers (Belby, Bunbury, Chaudhuri, Muehlenhaus, Sambu)
- 1 edited book chapter paper (Chaudhuri, co-authored with two students)

In addition to the above:

- 2 peer-reviewed textbooks have been published (Muehlenhaus)
- 1 peer-reviewed encyclopedia entry has been published (Chaudhuri)
- 4 peer-reviewed journal papers and 1 book review have been accepted for publication (Bunbury, Chaudhuri, Muehlenhaus)
- 2 papers have been submitted to journals (Chaudhuri, Muehlenhaus)

During this academic year, the faculty received \$34,139 in funding. This included:

- 2 external international travel grants totaling \$3,000 (Chaudhuri - \$1,500; Muehlenhaus - \$1,500)

- 1 UW-L Faculty Research Grant for \$14,439 (Bunbury)
- 2 UW-L International Development Grants totaling \$6,700 (Chaudhuri-\$3,350; Muehlenhaus-\$3,200)
- 1 UW-L Curriculum Redesign Grant for \$10,000 (Muehlenhaus and Chaudhuri)

The faculty was very active in presenting papers at academic conferences, including

- 3 international (Canada and Germany) conferences (Cravins, Chaudhuri, Muehlenhaus)
- 8 national conferences (Ahmed, Belby, Chaudhuri, Muehlenhaus, Sambu)
- 5 regional meetings (Belby, Bunbury, Berlin, Sambu)

In addition, 6 service presentations were given, with four of these at other institutions.

3. Resources and facilities:

The new research lab space in Cowley Hall 149 has greatly enhanced faculty and student research. Although the soils and field labs continue to be used heavily and remain over-crowded, the addition of the CH 149 has relieved some stress on department facilities.

The departmental GIS labs and the GIS lab manager play a critical role in supporting not only the department curriculum, but also the GIS activities of numerous other departments and programs (e.g., Biology, River Studies, Archaeology, Business). The transition last summer of the server and base imaging process to IT went smoothly and has had a very positive outcome. This reduced the work load of our lab manager, bringing the position more in line with a 50% appointment. Prior to this, the management of the GIS labs required almost a full-time position.

Section 4: Outreach Activities

1. Inclusive Excellence activities:

The department had actively participated in the Association of American Geographers Aligned Grant, funded by the National Science Foundation for the 2011-2013 academic years. This grant program involved recruiting minority high school students and retaining students already in the program. Although the grant period has now ended, the department continued with the implementation of the department's comprehensive recruitment plan. In fall semester the Chair re-established contact with two high school teachers who had participated in the department's NSF GeoEd grant four years ago. It is hoped that this will lead to further contacts to recruit traditionally under-represented students.

2. International activities and opportunities:

During this past academic year, three faculty members attended international conferences. Drs. Chaudhuri and Muehlenhaus attended the International Cartographic Conference in Dresden, Germany. Dr. Cravins attended the Institut Quebecois des Haute Etude International (HEI) in Quebec, Canada.

Dr. Cravins conducted an exploratory trip to Cuba in August 2013, where he met with Geography faculty at the University of Havana and established connections with local organizations. He plans to return to Cuba with a group of students for a study tour over winter break 2014-2015.

3. Engagement:

Faculty in the department maintain an active service program to UW-L, professional organizations and the community. Engagement included extensive service to the university, CSAH, the department and profession. Only a few selected professional examples are provided here:

- Dr. Cravins served as the UW-L Faculty Representative to the UW-System.
- Dr. Belby is serving on the planning committee for the fourth Congress of the International Society of River Science (ISRS) that will be held at the La Crosse Convention Center from August 23 – 28, 2015.
- Dr. Muehlenhaus served as a consultant for the National Endowment for the Arts on large scale exploratory maps.
- Dr. Ahmed served as Dissertation Examiner for six Ph.D. candidates: 4 at Aligarh Muslim University, India; 1 at the University of Calcutta, India; and 1 at Central Queensland University, Australia.

Community engagement activities included:

- Faculty involvement with the Myrick-Hixon Forest Ecopark. Dr. Belby also organized Myrick Park clean up events with geography student and community volunteers.
- Dr. Bunbury serves as UW-L liason to the Vermicomposting Program, a joint venture between UW-L, Western Technical College, and Hillview Agriculture Center. A geography major interned with the program this spring semester.
- Dr. Chaudhuri is involved with the Outdoor Recreation Alliance of the 7 Rivers Region, advising community members working in the ORA group about GIS data collection and mapping.
- Dr. Bunbury, Dr. Chaudhuri and Jeff Kueny gave tours of the La Crosse River Marsh to UW-L students.

Section 5: 2013-2014

1. Plans and focus for 2014-2015:

For the upcoming academic year, the department has three main goals: (1) replace departing faculty (see challenges and opportunities below), (2) increase the number of majors in the Geography major, (3) make progress on the APR process.

The Geography major has traditionally been at the core of the department. Recent changes in the field, changes in faculty and student career interests have contributed to a decline in majors within this program and a shift in enrollments into the Geography Environmental Science Concentration. The department will work on strengthening the Geography major through the replacement of the human geographer position, review of the program and further development of outreach efforts.

This spring the department began the self-study process for the Academic Program Review. The department will focus on making progress on the self-study over the next academic year. With three faculty searches in the fall, this will be a challenge and most likely delayed until spring.

2. Challenges and opportunities:

With the departure of Dr. Muehlenhaus, non-retention of Dr. Slocum, and upcoming retirement of Dr. Ahmed, the department will need to conduct search and screens for new faculty. The loss of Dr. Muehlenhaus is especially difficult for the department, since his position is vital to the core geography program, GIS and environmental geography major concentrations.

The department will focus its search on a cartographer/GIS faculty with a specialization in geovisualization, web mapping and map design.

The recent hiring of Dr. Reyerson and upcoming searches for three faculty offers the department a great opportunity to further develop a strong program, attracting diverse majors and minors,

and enhance the faculty's already dynamic research program. A new human geographer hire that better fits with the department program offers an opportunity to revitalize the Geography major and minor. Although the retirement of Dr. Ahmed will leave a void in the department, this also presents an opportunity for the department to develop its programming.

Summary of Annual Activity 2013-2014

Health Education and Health Promotion Department

HEHP hires 3 new members – two tenure-track and one IAS; one tenure-track is aligned with community/public health and the other with school health; the IAS is aligned with community/public health and has teaching and other responsibilities with public health, nutrition, and the nutrition minor. All three have made significant contributions to the programs and department.

The department approved a new vision and mission statements. The programs continue to grow (BS-CHE specifically) – BS-CHE candidates who complete the national certification exam (CHES) do well; our pass rate is approximately 92% (national pass rate approximately 72%); average score for a BS-CHE major at UWL is 116 (nationally 102).

The department sent 3 faculty and 12 students to the national health education advocacy summit in Washington D.C. for advocacy education and activities in February; this summit is put on by the Coalition of National Health Education Organizations (CNHEO) with the Society for Public Health Education (SOPHE) taking the lead; in addition, HEHP sent 4 students to represent our Eta Sigma Gamma (National Honor Society) Chapter at the national SOPHE meeting in Baltimore in March.

The Department had a Fulbright teaching scholar for the spring 2014 semester.

In March, the Council on Education for Public Health (CEPH) were on campus for accreditation review of the B.S. in Community Health Education and the MPH in Community Health Education; as a result of the visit and follow-up report the BS-CHE program is in the process of making significant changes to the program for implementation in the fall 2015.

In the area of scholarship, faculty in HEHP had 6 major publications, 18 regional or national presentations, 6 theses completed, 2 graduate projects completed, 3 grants funded for \$112,411, 1 book published and 4 undergraduate research projects completed.

Finally members of the department continue to be very active in service at the local, regional, and national levels.

Summary of Annual Activity 2013-2014

Health Professions Department

Section 1: Success Stories

Please provide:

- What accomplishments would you like to highlight this year
- Are there opportunities to further leverage these accomplishments either in terms of public relations or strategic planning

Accomplishments

Academics: The Health Professions Programs programmatic accreditation agencies define outcomes for the programs to measure and report each year. These benchmarks are compared nationally as indicators to measure program success.

- Pass Rates on National Certification Examinations:
All programs (Medical Dosimetry, (MS degree) Nuclear Medicine Technology (BS degree), Occupational Therapy (MS degree), Physical Therapy (DPT degree), Physician Assistant (MS degree), and Radiation Therapy (BS degree) obtained a 100% pass rate on their respective national certification examinations. These pass rates are well above national average in each profession. This year one physical therapy student had a perfect score.
- Quality of Students Admitted to the Programs:
Applications for all of the programs in the department remain high with academically strong students accepted into the programs. Over half of the students are current UW-L undergraduates or graduates; the majority of students (~ 75%) are women.

Graduate Programs

- Medical Dosimetry (35 applied/18 accepted); mean GPA for 2014 cohort =3.40
- Occupational Therapy (131 applied/16 accepted); mean GPA for 2014 =3.63
- Physical Therapy (621 applied/45 accepted); mean GPA for 2014 cohort =3.77
- Physician Assistant (421 applied/19 accepted); mean GPA for 2014 cohort =3.88

Undergraduate Programs

- Nuclear Medicine Technology (28 applied/24 accepted); mean GPA for 2014 cohort =3.18
- Radiation Therapy (45 applied/ 19 accepted); mean GPA for 2014 cohort =3.47

- Student Retention:
Collectively, 99.98 % of the students admitted to our professionally programs graduated on time. This high retention rate is a reflection of the student centered curricula and intensive professional advising provided by the faculty in these programs.
- Employment:
As professional education programs, students are being educated for specific professions, so employment rates and employer satisfaction are included as program outcomes for some of the programs. For the cohorts graduating in 2014, nearly 100% of the students in all programs found employment in their

professions within 6 months of graduation. The employers who provided feedback were all satisfied or very satisfied with the quality of UW-L graduates they hired from our UW-L programs.

In addition to the six professional education programs, the Health Professions department teaches several undergraduate service courses:

- SAH 105 Analysis of Health, Wellness and Disease for the Health Care Consumer, (334 students) general education course
- HP 106 Introduction to Health Careers (140 students)
- HP 250 Medical Terminology (129 students)

Scholarly Productivity

- 14 publications by faculty and students in the Department
 - 6 of these were generated from the research activities in the La Crosse Institute for Movement Science (LIMS) Laboratory
 - 6 Department publications were Index Medicus (comprehensive list of journals based on quality in the Medical Sciences)
 - 4 manuscripts were with faculty/student co-authorships completed with faculty mentoring (Physical Therapy)
 - 4 manuscripts were submitted by students as single author (Medical Dosimetry)
 - 2 book chapters were accepted for publication (Physical Therapy)

External Grants

- 1 National Institute of Health Small Business Innovative Research (SBIR) Grant awarded
 - T. Kernozek (PT), Bertram Ezenwa, (BE Bioengineering, LLC) "Wearable Muscle Fiber Excitation System for Preventing Blood Clots." \$148,950 total award (\$19,620 awarded to UW-L)
- 4 NIH Small Business Innovative Research Grants submitted:
 - T. Kernozek (PT), J. Greany (PT) B. Ezenwa (BE Bioengineering LLC) "Muscle Fiber Excitation Effects on Blood Flow and Muscle Activation." \$350,000 total request, (\$93,064 requested for UW-L)
 - P. Grabowski (PT) "WiFi-enabled hand-portable real-time force sensor to objectively assess strength" - \$1,498,222
 - P. Grabowski (PT) "Optimizing Adherence to Physical Therapy Exercises: KIIO Mobile Solution" - \$1,664,813
 - P. Grabowski (PT) Re-submission - "WiFi-enabled hand-portable real-time force sensor to objectively assess strength" - \$1,498,588
- 1 grant submitted to the National Athletic Trainers' Association Research and Education Foundation
 - (N. Aminaka (ESS), T. Kernozek (PT), Brian Allen (Health Center) "The effects of pain modulating agents on movement coordination and patellofemoral joint loading during repeated hopping in those with patellofemoral pain" (\$28,590 total award request)

Internal Grants:

- UW- L Faculty Research Grant (P. Grabowski, Physical Therapy)
- College of Science and Health Early Start Grant (B. Johnson, Physical Therapy)
- International Education Grants (M. Thorman – Guatemala, Physical Therapy) and R. McCannon (British Isles, Occupational Therapy)
- Carol Dobrunz Travel Grant (A. Staffaroni, Nuclear Medicine Technology)

- Lesson Study Grant (A. Staffaroni, Nuclear Medicine Technology; M. Weege, Radiation Therapy; and S. Cooper, A. Galbraith, & A. Sanderfoot, Biology)
- On-Line course development grants (M. Weege, Radiation Therapy) and N. Lenards (Medical Dosimetry)

Service

Students/Faculty are heavily involved in service activities in the community. Two programs have coursework that provides students with opportunities to apply and practice therapeutic skills with volunteers from the community with faculty supervision. While the purpose is primarily academic for the students, the volunteers also benefit through the therapy services they receive.

These programs are:

- The La Crosse Exercise Program for Adults with Neurologic Disorders (EXPAND) program from the Physical Therapy program. 44 students served 54 clients
- The Occupational Therapy Adult and Pediatric clinics. 52 students served 26 clients and their families.

In addition, there are service learning requirements in other courses in the programs. This year, the physical therapy program provided health and wellness programming to the following organizations:

Benedictine Assisted Living Facility, Bethany on Cass, Fitness for Future, JRM CPA's, Kwik Trip, La Crosse County Health Department - Strong Seniors Program, La Crosse Fire Department, La Crosse Police, Onalaska Fire Department, Riverside Corporate Wellness, Salvation Army, St. Clare Health Mission, YMCA Surround Care, YMCA Teen Center and YWCA Bridges Program.

Service is strongly valued by faculty and students in our department.

- In addition to university service, faculty provide pro bono physical therapy services to various community organizations such as St Clare's Health Mission, La Crosse / Onalaska Fire Depts. and La Crosse Falls Prevention Coalition.
- Occupational Therapy, Physical Therapy, and Radiation Therapy student clubs actively participate in fundraising events and made large financial donations to the following community organizations (i.e. Gundersen Cancer Center, Sarah's Purse, Relay for Life, Children's Miracle Network, Kaitlin's Table, Easter Seals Camp, Stepping Out in Pink).
- Additional community outreach activities are listed in section 4.

Leverage These Accomplishments

The health professions programs help to meet the demand for medical professionals in this region. The quality of our graduates is excellent, our research is innovative and strongly incorporates faculty/student partnerships, and the service we provide to community organizations through our coursework, internships and volunteer efforts is extensive. Any or all of these could be topics for public relations stories.

Section 2: Students and Programming

Please provide:

- Any update on students' accomplishments/successes during the year that you would particularly like to highlight
- Any changes to the overall student mix in your college and plans for addressing these changes

- An update on new programs and changes to existing programs
- Information as to whether any programs require additional monitoring or redesign
- Any new non-curricular programs that your college participates in and an analysis of the strengths and weaknesses of the program

Student Accomplishments/Successes

Student Scholarly Activity

- Capstone Projects
 - 17 physician assistant students completed Capstone projects
 - 45 physical therapy students completed Capstone projects (3 were submitted with Faculty mentor for publication)
- Twenty six occupational therapy students completed evidence based research projects involving collaboration with 13 alumni mentors around the country. Students presented their findings in a public forum for UW-L occupational therapy faculty, students, alumni mentors, and area occupational therapy clinicians.
- First year physician assistant students participated in Challenge Bowls at the Wisconsin Association of Physician Assistants (WAPA), the Minnesota Association of Physician Assistants (MAPA), and the American Association of Physician Assistant (AAPA) conferences.
- 15/19 nuclear medicine technology students presented their research at the Annual Meeting of the Society of Nuclear Medicine and Molecular Imaging (SNMMI) in June 2014.
- 8 poster presentations were presented at the UWL Research Day by 18 physical therapy students.
- 2 poster presentation were made at Research Day with 2 undergraduate students mentored by physical therapy faculty in the LIMS laboratory
- 6 physical therapy students attended the conferences to present research (Combined Sections Meeting of American Physical Therapy Association, American College of Sports Medicine)

Grants/Scholarships

- Three occupational therapy students were awarded a grant from the Foundation to sponsor the Occupational Therapy Distinguished Lecturer.
- Two radiation therapy students were awarded national scholarships in the amount of \$5000 from the ASRT.
- Four nuclear medicine technology students were awarded grants and three were awarded scholarships for their interest and pursuit of a Nuclear Medicine Technology degree.
- Undergraduate Research Grant (S. Zahirudin, ESS student) in McNair Program working in LIMS lab
- 2 Graduate Student Research Grants (physical therapy)
- Graduate Student Travel Grants (4 - physical therapy , 6 - occupational therapy)

Professional Development (attending national conferences)

- Approximately 20 physical therapy students attended the National Student Conclave and the American Physical Therapy Association Combined Sections Meeting (CSM).
- Eight occupational therapy students attended the National Student Conclave and the American Occupational Therapy Association Annual Conference in Baltimore, Maryland.

Student Awards:

- M. Kuchenbecker(Radiation Therapy) was selected to attend a national ASRT Student Leadership Development program this June in Orlando, FL.
- C.N. Vannatta (Physical Therapy) received the Science and Allied Health Graduate Student Achievement Award (Spring 2014)
- E. Camenga (Physics-Biomedical) received the Murphy Award (Spring 2014). She was involved in research in the LIMS Lab with R. Ragan (Physics), T. Kernozek (Physical Therapy) that was presented at NCUR.
- Finally, we sadly report that a Radiation Therapy student, Kim Graham, lost her battle to Ewing's Sarcoma on March 17, 2014. She was a 2013 recipient of an Extraordinary Degree from UW-L. A scholarship has been established in her honor.

Update On Changes Made To Existing Programs

Professional behavior advising is a key feature of all department programs; two programs made changes to their professional advising process to increase formal assessment and documentation of student progression in professional behaviors.

- Physical therapy designed and implemented a new student progression procedure which jointly assess academic performance and professional behaviors prior to students progressing to clinical experiences.
- Occupational therapy redesigned the professional advising and assessment process to more clearly identify student development and progression.

One Health Professions Department goal for AY 13-14 was to increase the opportunities students have for Interprofessional Education (IPE) experiences in the department. Two programs have curricular standards requiring the students to develop interprofessional competencies. This year, the following experiences were available to students in our department (in addition to the foundational science classes that are taken together). Accreditation requirements for IPE will be required of other programs in the future so efforts to build and strengthen the department IPE initiative will continue to be a department goal.

- Occupational therapy and radiation therapy have an IPE experience on professional roles in cancer treatment
- Occupational therapy and physical therapy have two IPE experiences on professional roles in rehabilitation
- Occupational therapy and occupational therapy assistants (from Western Technical College) have an IPE class on roles of OT and OTA
- Occupational therapy and physician assistants participated in an IPE case study workshop
- Radiation therapy, nuclear medicine technology, and radiation biology students worked on case studies together.

UW-L was approved by the UW system and the Physical Therapy Programmatic Accreditation agency (CAPTE) the authorization to confer its own DPT degree, independent of the UWS Consortium.

Nuclear medicine technology has made progress towards obtaining programmatic accreditation for the UW-L NMT program. The first cohort of students in the UW-L accredited program will begin this summer (2014). Second year coursework will be taught to these students by UW-L faculty and the clinical site (University Hospitals in Madison) is responsible for clinical internship education only. Previously, all students were placed in accredited clinical sites for their second year of coursework and internships. Obtaining accreditation for the UW-L NMT

program allows the program to grow by adding sites that are not independently accredited but will take students for internships.

Radiation therapy has redesigned the second year of the program and developed on-line programming of the coursework previously taught by education coordinators at different clinical sites. This program change has allowed the UW-L faculty to teach this coursework to the students at a site who no longer employed an education coordinator (Gundersen). That site continues to take students for clinical internships but could no longer teach the coursework. The on-line coursework programming for these students was implemented last summer and evaluated after this first year in operation. It was reviewed very positively by the students involved, the clinical site, and the UW-L faculty. It has turned out to be a good solution to a growing problem of shrinking clinical involvement in our program.

The occupational therapy program purchased I-PADS with selected apps for the first year students as a trial to determine if they enhanced the student's educational experience. The IPADS were very well received by the students and were used in many classes in innovative and creative ways. For example, faculty used the IPAD to demonstrate a technique to the entire class that could be seen much more clearly on a screen than having students crowd around the table to observe it live. Students made short movies of movement for analysis. The anatomy apps were used to increase the student's confidence and reduce anxiety about learning anatomy. Some faculty used IPADS during courses to access information used for immediate discussion during the course. Students found and used APPS to assist with note-taking, studying, and group projects. The students also used the IPADS for assignments since there is no computer lab in this building and some do not have home computers. Overall, the IPAD project was so well received that the program purchased additional IPADS for the 2014 incoming cohort so each student now has an IPAD to keep and use during the academic portion of the program.

Section 3: Staffing, Resources and Facilities

Please provide:

- An overview of the staffing situation for the year (hires, GQA hires, retirements, etc) and any consequent changes/issues/priorities
- A holistic summary of scholarship and grant activity
- The status of resources and facilities with a particular emphasis on any changes, challenges, and developments during the year
- A staff development plan for the year

Recruitment and retention of Health Professions faculty and staff continues to be challenging. The last two-three years have seen an increase in turnover of positions. Recruitment of an occupational therapy faculty member is the top priority since a signed contract will need to be in place before the site visit to stay in compliance with the occupational therapy accreditation requirements.

New hires

- Patricia Campbell (Physician Assistant)
- Patrick Grabowski (Physical Therapy)
- Barbara Johnson (Physical Therapy, starts August 2014)
- Ann Marie Vann (Medical Dosimetry)
- Kerry Michell (Nuclear Medicine Technology, new position)

Open Positions

- 0.5 FTE (Physician Assistant, offer extended)
- 1.0 FTE (Occupational Therapy, renewed search for 2nd year)

Resources:

The Health Science Center has aging teaching technology and limited building resources for upgrades. The teaching technology is minimally acceptable and does not facilitate contemporary teaching methods. There is no computer lab in the building nor easy access to student printing. The occupational therapy and physical therapy programs invested in laboratory enhancements to promote contemporary teaching and faculty mentored student research. These included new tables and chairs, a teaching station for a laboratory, etc. These permanent building improvements have been funded through the program budgets as they were not funded by the HSC. To date, the programs have not been willing to fund permanent building enhancements in classrooms as we believe adequate teaching/learning facilities should be provided by the HSC in the classrooms used by all of the building partners.

We are very grateful that the UW-L ITS increased the number of Wi-Fi access points in the building so that a class of 26 can all be connected simultaneously to the internet.

Staff Development Plan

Each faculty and IAS in the department completes a professional development plan that is reviewed with the program director/chair annually. These plans identify individual faculty goals and are tied to the program's strategic plan and budget.

Four department faculty were involved in obtaining advanced degrees.

- Amanda Carpenter (Radiation Therapy) began a Master's Degree in Education with an online teaching concentration program from UW-Stout.
- N.Lenards (Medical Dosimetry) completed PhD coursework and is beginning her dissertation
- D. Dougherty (Occupational Therapy) completed an Occupational Therapy Clinical Doctorate (OTD) degree.
- V. Gronwaldt (Occupational Therapy) completed the Masters of Science in Occupational Therapy Degree and successfully passed the national certification examination.

Section 4: Outreach Activities

- Inclusive Excellence opportunities, events, and ideas put forward during the year
- A summary of international activities and opportunities offered this year
- Information on what sorts of fundraising and community engagement activities have been attempted, and their outcomes, this year

International Activities and Opportunities

- Occupational Therapy offered student travel experiences to occupational therapy programs in Scotland and England. Students from those two programs traveled to UW-L. These experiences are specifically designed for occupational therapy students and include job shadowing, taking classes at the host school, and joint video conferences to share experiences with all students in the class.
- R. McCannon (Occupational Therapy) presented a paper at the Congress of Occupational Therapy Meeting in England about the exchange program between UW-L, Robert Gordon University, and the University of Brighton.

- R. McCannon (Occupational Therapy) presented a lecture on contemporary pain management methods for the Occupational Therapy faculty at Robert Gordon University.
- M. Thorman (Physical Therapy) visited Guatemala to explore possible physical therapy and occupational therapy student service learning opportunities provided through a non-profit organization.
- T. Kernozek (Physical Therapy) presented a paper at the International Society of Biomechanics in Sports in Taipei, Taiwan as well as on two Taiwan research campuses.

Community Outreach.

Students from the HP department were placed in 191 facilities for internships this past year. The majority (85%) of those internships were in the upper Midwest (WI, MN, IA, IL, & MI) with over half placed in Wisconsin (55%). Through internships, patient related services were delivered to the following local community organizations:

Burkardt Physical Therapy, CESA 4, Gundersen Sports Medicine, Gunderson Health System, Innovations Rehabilitation, Rolling Hills Nursing Home, Mayo Health Systems (La Crosse, Onalaska, Sparta), Sister Kenny – River Falls, Hillview, Tomah VA Medical Center, Vernon Memorial, Villa St. Joseph's, Prairie du Chien Hospital, Tomah Middle School, Providence Academy, Bethany Lutheran Homes (Senior & Assisted Living Facilities), La Crosse Public Schools (Lincoln Middle School, Longfellow Middle School, Emerson Elementary School, Harry Spence Elementary School), Western Technical College, UWL, Viterbo University, Dynamic Recycling, YMCA, Willows Assisted Living facility, Salvation Army, Holmen School District, Salzer Square, OnaTerrace, La Crosse Housing Authority, Springbrook, Carroll Heights, Woodmans, Shopko, Shelby Terrace, Salem Terrace, Prairie Home, UW-L Childcare Center, and Moser Home.

- The Occupational Therapy program and student organization (SOTA) sponsor an occupational therapy distinguished lecturer annually. The speaker is an internationally recognized leader in the field and provides a workshop for all the students and faculty in the program. This workshop is also open to area occupational therapy clinicians (over 40 attended this year) as a low cost continuing education opportunity. Students write grants and fundraise to financially support the speaker, plan, organize, and run the event.
- The Occupational Therapy student club annual inclusive fashion show, Project Funway, was adopted this year by the Valley View Mall as one of their sponsored "signature events". What started as a small project by the student club has grown into a major mall event every spring that promotes inclusivity, the occupational therapy program at UW-L, and the profession.
- LIMS will host a visiting scholar from the Middle East starting in July 2015.
- Physical Therapy and Occupational Therapy programs hosted the Career Fair (Spring 2014) with 34 employer guests in attendance. Approximately \$7,000 was earned to support physical therapy and occupational therapy student scholarships and professional development activities.
- The Physical Therapy program is organizing a multiclass reunion for summer 2014. It is hoped that processes can be organized to be able to provide reunions in future summers on a regular basis to promote goodwill among alumni, fundraise and highlight changes in the Physical Therapy program.

Section 5: 2014-2015

Please provide:

- Plans and focus for 2014-2015

- A summary of foreseeable challenges and opportunities going forward
- Suggestions for how the Provost and Associate Vice Chancellors might be of assistance in your efforts

Department Goals:

- Continue to provide high quality, student centered education in each of our programs
- Maintain excellent outcome indicators (as directed by our programmatic accreditors)
- Hire and orient faculty/IAS for all open positions
- Continue to develop IPE initiative
- Explore additional health related international experiences for our students
- Increase alumni relationships with the programs
- Continue to teach undergraduate service courses

Medical Dosimetry Goals

- Increase clinical sites , marketing and advertising to increase admissions to the program
- Fully orient new clinical education coordinator

Nuclear Medicine Goals

- Progress successfully in seeking accreditation by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology (JRCNMT).

Occupational Therapy Goals:

- Successfully complete self-study and site visit to obtain reaccreditation (Hire faculty for open faculty position prior to site visit)
- Explore methods of reducing demand on clinical facilities for internships, job shadowing, etc.
- Further develop alumni relations (enroll all grads on alumni Facebook page, establish individual faculty advisory groups, scholarship fundraising – target \$3000, encourage alumni to pursue doctoral degrees)
- Identify resources needed for anticipated transition to clinical doctorate as the entry level degree

Physical Therapy Goals

- Begin preparation for CAPTE self-study review and site visit in 2017-2018.
- Incorporate technology to enhance program infrastructure. (expand presence on social media, implement new clinical education database and curricular mapping software programs, update website)
- develop and expand global service learning opportunities
- optimize opportunities for all faculty/IAS to achieve and disseminate scholarly outcomes

Physician Assistant Goals

- Complete ARC-PA accreditation self-study by February, 2015; onsite scheduled for February, 2017).
- Explore ways to increase using more standardized patients and simulation models in education and assessment of clinical skills
- Collaborate with other programs with the Health Professions Department to develop more Inter-professional learning opportunities
- Enhance alumni relationships

- Develop program presence on Facebook
- Develop regularly published alumni newsletter
- Host 20th anniversary celebration of PA program

Radiation Therapy Goals

- Identify clinical sites willing to providing internships necessary to increase student enrollment
- Develop an alumni database
- Begin implementing electronic clinical education management system
- Identify methods to incorporate more undergraduate research opportunities into the curriculum

Foreseeable Challenges:

- Occupational Therapy profession is moving to entry level at the clinical doctorate by 2020. This will require increased degrees for two existing faculty as well as authorization through campus governance and UWS.
- Nuclear Medicine Technology, Radiation Therapy programs, and Medical Dosimetry are poised to grow if they can obtain additional clinical sites.
- Maintaining adequate clinical sites for student internship placements will continue to be a challenge as the new health care changes start to be implemented. This particularly affects the occupational therapy and physical therapy programs.
- HSC technology is generally adequate for lecturing and powerpoints but does not support contemporary teaching methods (lecture capture, smart boards, etc.).

Summary of Annual Activity 2013-2014 Mathematics Department

The Mathematics Department had a very successful 2013-14, completing some major projects that had been set aside for several years. Probably the most significant of these, especially in the eyes of the administration, was the successful completion of its Academic Program Review requirements, led by the efforts of Jeff Baggett. The Department is now scheduled for its next review in 2015-16, after which it will be back in sync with the seven-year schedule. Another major departmental activity was the creation of an initial five-year plan. While the document will continually be updated and added to, this past year saw the initial effort to plan for the future. Finally, the department did thorough IAS annual reviews (as stated in our bylaws) for the first time in many years. As the number of IAS, both short-term and long-term, increase in the department, it is important for the department to ensure the quality of their teaching and any other activities.

Enrollment Information

Enrollment records indicate that there were 150 declared mathematics majors in 2013-14, distributed among the various categories. Of these 150 majors, approximately one-third are regular math majors, another one-third are math education majors, and the remaining third consists of students with majors in the math/engineering, applied, statistics or statistics with actuarial concentration. The number of

statistics, and statistics with actuarial concentration majors has grown this past year. Of the remaining categories, the actuarial emphasis continues to be the most popular.

		Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013
Majors	Mathematics	40	38	53	57	56
	Math Education	64	68	64	55	51
	Applied Emphasis	5	12	13	5	9
	Math/Engineering	8	7	9	5	6
	Statistics	10	13	6	2	4
	Actuarial Conc	8	20	22	26	34
Total		135	158	166	150	160
Minors	Mathematics	46	68	70	84	98
	Math Education	77	66	52	50	43
	Statistics	2	6	6	5	9
Total		125	140	128	139	150

TABLE 1: Number of Majors/Minors per Year, by Type.

As a traditional academic discipline, mathematics is involved in the academic programs of virtually all UW-L students and the curriculum offered by the Mathematics Department serves many different needs for the UW-L student population. There are non-credit remedial courses for those students who need to improve their mathematics background before taking college level math courses, general education and service courses which provide all students with a solid foundation for their area of study, and there are the courses for the mathematics majors/minors. Student demand for mathematics courses continues to increase as the student population grows.

Semester	Course Type	Number of Sections	Enrollment	SCH
	Remedial	8	313	700

Fall 2013	General Education/Service *	62	2291	9360
	Major/Minor	24	564	2071
	Special Topics/Independent Study	9	16	17
	Total	112	3180	12,148
Spring 2014	Remedial	7	201	460
	General Education/Service *	52	1846	7498
	Major/Minor	27	530	1974
	Special Topics/Independent Study	13	31	45
	Total	103	2608	9977

TABLE 2: Student Credit Hours by Course Type (* Through MTH 207, not counting 135/136)

Curricular Changes

The Mathematics Department continues to review its curriculum to strengthen courses and programs to meet the changing needs of students enrolled in mathematics courses. This past year, the Department made several curricular changes in response to student needs in math and in other programs, changes in math requirements for math education students made by the Department of Public Instruction, and assessment of student learning.

- The Department's statistics group was successful in replacing the Mathematics Major with emphasis in Statistics with a *Statistics Major*. The proposal was approved at the June 2013 Board of Regent's Meeting. Approval of this proposal also changed the Mathematics Major with Concentration in Actuarial Science to the *Statistics Major with Concentration in Actuarial Science*, and the Mathematics Minor with Concentration in Statistics to the *Statistics Minor*.
- In collaboration with the Computer Science Department, MTH 225: Logic and Discrete Math will now be targeted more to Mathematics majors as the Computer Science Department created CS 225 as the logic course for their majors.
- In response to concerns from Physics and Business as well as many faculty within the Mathematics Department, the AP Calculus Credit policy was updated to give students with a score of 3 on the AB Calculus examination credit for MTH 175.
- While the results will not be seen until next year at the earliest, department members embarked on two curricular redesign projects funded by Curricular Redesign Grants.
 - The first project is a revision of MTH145: Elementary Statistics course to better align with *Guidelines for Assessment and Instruction in Statistics Education (GAISE)* published by the American Statistical Association (ASA), which outlines recommendations for programs and service-oriented introductory courses in Statistics.
 - The second project is be the development of a minor program in Mathematical Biology, leading to a major within the next few years.

Departmental Staffing

The instructional staff of the department consisted of 28 faculty members and 8 instructional academic staff in the Fall 2013 semester, and 28 faculty members and 8 instructional academic

staff in the Spring 2013 semester. During the academic year the department chair had release time, one member taught half-time in the Mathematics Department and served half-time as the director of the UW-La Crosse Statistical Consulting Center, one member (with a .5 appointment in mathematics) in the served as chair of the Computer Science Department, and only taught one course for mathematics. In addition, to help partially meet student demand for mathematics courses, two faculty members taught overload courses in the Fall 2013 semester. Instructional FTE are summarized in the following table.

	Faculty FTE	Academic Staff FTE	Overload FTE
Fall 2013	26.5	6.12	.67
Spring 2014	26.5	5.12	0

TABLE 3: Mathematics Department Instructional FTE 2013-14

- Retirements/Resignations:

Maggie McHugh resigned effective August 26, 2013

Heather Mathison resigned effective August 31, 2014.

Gary Dickinson resigned effective March 10, 2014 (due to health concerns).

- New Faculty: Seven new tenure-track faculty joined the Department in the Fall of 2013.

Doug Baumann – Ph.D. in Statistics from Purdue University (2012)

Matt Chedister – Ed.D. in Mathematics Education from Boston University (2013)

Song Chen – Ph.D. in Mathematics from Auburn University (2013)

Tushar Das – Ph.D. in Mathematics from University of North Texas (2012)

Josh Hertel – Ph.D. in Mathematics Education from Illinois State University (2013)

Eddie Kim – Ph.D. in Mathematics from University of California-Davis (2010)

Chad Vissen – Ph.D. in Mathematics from Iowa State University (2012)

- New Instructional Academic Staff

Sam Morris joined the Department in Fall 2013 as part-time IAS. Sam is working on his Ph.D. in Statistics at North Carolina State University.

- Searches: The department had a very busy, and successful, year in hiring. Three new tenure-track faculty, filling one new GQA positions and two replacement positions, were hired in two separate searches. The GQA position, for a new position in mathematics education, was filled in December 2013. The department also successfully filled two positions in mathematics in February 2014. These two positions were replacement positions. In a third search, the department filled two new GQA IAS positions in and one replacement IAS position. One additional remain unfilled.

New assistant professors beginning Fall 2014:

Whitney George, Ph.D., University of Georgia, Mathematics (2012)

Crystal Vesperman, Ph.D., Indiana University, Mathematics Education (2014)

Nathan Warnberg, Ph.D., Iowa State University, Mathematics (2014) New

Instructional Academic Staff beginning Fall 2014:

Susan Gitter
William Heider
Brett Townsend

Student Activities/Accomplishments

UW-L continues to be well represented by its student population in state, national, and international mathematical modeling competitions. This year four 3-student teams participated in the Interdisciplinary Contest in Modeling and the Mathematical Contest in Modeling through COMAP (the Consortium for Mathematics and its Applications). One of the teams (Thong Le, Mac Gallagher and Lance Hildebrand) received a score of “Meritorious” for their solution, putting them in the range of 36-825 out of 7784 teams around the world. For the second year in a row, students also participated in the Midwest Undergraduate Data Analytics Competition held at Winona State University in April 2014. One of the two UW-L teams (Jenna Jensen, Brian Krueger, Laura Gerds, and Megan Schullo) placed in the top 5 out of 23 teams from around the Midwest.

Student participation is also increasing for the William Lowell Putnam Mathematical Competition - or simply the Putnam Exam. This year six UW-L students participated along with over 4000 others. In an exam where the median score is “0”, our students did very well. Thong Le got 10 points (rank 1324 out of 4113) . Our UW-L team score was 10.

Our math education students continue to earn recognition. Four students who presented at the Wisconsin Math Council’s annual conference in May 2013 were invited to speak at the PBS Kids Conference for Early Education Professionals in November 2013. Students also put on the Second Annual Mathematics Education Technology Fair.

Several students received funding for undergraduate research through Undergraduate Research and Creativity Grants (Carly Shinnars and Katherine Zoroufy -mentored by Sue Kelly, Molly Neumann- mentored by Doug Baumann) or as Deans Distinguished Fellows (Thong Le – mentored by Robert Allen, Mary O’Driscoll – mentored by James Peirce). Many students also presented their work at various venues, including NCUR 2014 and the UW-L Celebration of Research and Creativity.

Faculty and Staff Activities/Accomplishments

The Mathematics Department faculty continue to be active and engaged in teaching, scholarship and service. This is shown by our faculty on a daily basis, but this year it is highlighted by the following special recognitions:

- Three faculty successfully applied for promotion:
 - to Associate Professor–Jenni McCool
 - to Full Professor – Jeff Baggett and Jenn Kosiak
- The Math MOOC won the 2013 Desire2Excel award for Collaboration.

❖ Teaching

In addition to their regular teaching assignments, 10 different faculty members advised or co-advised 15 students in undergraduate research projects. Some of these projects were funded through the NSF Collaborations on Riverine Ecology (CORE) grant, Undergraduate Research

and Creativity Grants ,or SAH Dean's Distinguished Fellowships. Results of these projects were presented by the students at various local, state, national and international venues including the UW-L Celebration of Research and Creativity, the College of SAH Summer Research Poster Session, the Wisconsin Math Council Annual Meeting, and NCUR. Faculty members also taught 21 different special topics/independent study courses in areas such as Mathematical Models in Biology, Bayesian Methodology, Convex Optimization & Polytope, and Functional Analysis. Finally, the FastTrack program continued in 2013-14 with another very successful cohort.

❖ *Scholarship/Creativity*

The level of scholarly activity in the Department grew dramatically this past year. This is partly due to the addition of seven new and active faculty members, but many other faculty members also contributed to this. Over thirty journal articles and one book chapter were published by twenty different faculty members. The variety of backgrounds of our faculty really shows in the wide variety of journals in which they publish, including:

- The Journal of Mathematical Analysis and Applications
- Epigenetics
- Molecular Plant-Microbe Interactions
- Bioinformatics
- The R Journal
- The Journal of College Student Retention
- Journal of the American College of Surgeons
- Involve
- The American Naturalist
- International Journal of Difference Equations
- Theoretical Population Biology
- Journal of Wildlife Diseases
- Transactions on Mobile Computing

Eleven additional journal articles were submitted. Two additional articles were published in conference proceedings. Five different mathematics faculty were invited to give presentations:

- Robert Allen gave two invited talks: one at the Prime Time Mathematics Colloquium at North Central College in Naperville, IL, and one at the MCSP Lecture Series at Roanoke College, Roanoke, VA.
- Doug Baumann gave an invited talk at the Missouri University of Science and Technology Department of Mathematics and Statistics Colloquium.
- Tushar Das gave two presentations: one at the University of Chicago Dynamics Seminar, and one at the 36th Conference on Stochastic Processes and their Applications in Boulder, Co.
- Eric Eager gave two invited talks: one at the University of Nebraska-Lincoln Mathematical Biology Seminar, and a second at the Bi-State Mathematics Colloquium, Loras College and UW-Platteville in Duluth, MN.
- Chad Vidden gave an invited talk at the UW-Stout Mathematics Colloquium.

In addition, multiple presentations were given by 20 different faculty at state, national and international conferences. Faculty were also involved in many review activities for professional journals.

Several faculty serve on journal editorial boards. Heather Hulett and Todd Will serve as associate editors for the *College Mathematics Journal*, Josh Hertel, Jenn Kosiak and Jenni

McCool are coeditors of the *Wisconsin Mathematics Teacher*, and Melissa Bingham was just recently appointed as an associate editor for the *Journal of Statistical Distributions and Applications*. In this capacity, these faculty members reviewed 55 articles. In addition to these editorial review activities, ten different faculty members reviewed 33 articles for a wide variety of journals, including DiscreteMathematics, Bioinformatics, AMS Math Reviews, the Journal of Statistical Education, the Journal of Research in Mathematics Education, and the International Journal of Computer Mathematics.

The grant writing activity of department faculty has brought in nearly \$450,000 this year, not counting continuing funding for multi-year grants previously awarded. Over \$80,000 of this came from local UW-L grants including eight summer Faculty Research Grant, two Faculty Development Grants, and two Curricular Redesign Grants. Also included are two UW-System, one of which is a multi-year Incentive Grant for \$126,248 to expand the Statistical Consulting Center to external clients. The remaining amount (over \$200,000) is in external grants. The largest of these is a \$186,262 grant to examine the efficacy of the Math MOOC. Two additional external grants are currently under review by the National Science Foundation (\$103,732) and the National Security Agency (\$19,813).

In a less familiar area of mathematical scholarship/creativity, Karl Kattchee displayed pieces of mathematical art at two different juried exhibitions; the Exhibition of Mathematical Art at the AMS/MAA Joint Mathematics Meetings and the Exhibition of Mathematical Art at the Bridges 2013 Conference. This year, Susan Kelly also displayed a piece in the Exhibition of Mathematical Art at the AMS/MAA Joint Mathematics Meetings.

❖ *Service*

The Mathematics faculty are involved in a wide range of service activities at the departmental, college, university and professional level. The success of a department depends, in great part, on faculty involvement in all areas involved in the running of the department. Every department member is actively involved in one or more departmental activities. Along with annual department activities such as merit reviews, retention and promotion, running the Math and Statistics Club, etc., this year faculty were involved in 3 separate search and screen committees (for 7 positions), various curricular committees, math modeling contests, and much more.

At the college and university levels, math faculty and staff left their mark as well.

- Chairing a major university committee
 - Research and Grants – Karl Kattchee
- Membership on over 15 different college - or university - wide committees including:
 - College Committee(2)
 - Undergraduate Research
 - Search and Screen committees for positions outside of the Mathematics Department, including Campus Grant Writer and Assistant to the Vice-Chancellor for Finance
 - Undergraduate Curriculum
 - Joint Planning and Budget
 - Joint Promotion

Mathematics faculty are also very involved in professional and community service activities. Activities for the past year included the following:

- Session Chair for MathFest (Robert Allen)
- Director of Project NExT-Wisconsin (Eric Eager)
- Board of Advisors of the Wisconsin Mathematical Association of America (Jenn Kosiak)
- Administrator of Mathematics Education Researchers Facebook Group (Josh Hertel)
- Wisconsin Mathematics Leadership Council (Jenni McCool)
- Committee Chair of the Wisconsin Mathematics Council (Jenn Kosiak)
- Editorial Board of the *College Mathematics Journal* (Heather Hulett and Todd Will)
- Editors of the *Wisconsin Mathematics Teacher* (Jennifer Kosiak, Jenni McCool and Josh Hertel)
- Higher Education representative on the Wisconsin Math Council Board (Jennifer Kosiak)
- Judging high school/undergraduate posters and research papers and various science fairs
- UW-L Girls/Boys in Science Program Director (Sue Kelly)
- Eric Eager worked with our students to successfully apply for a Society for Industrial and Applied Mathematics (SIAM) student chapter. Eric serves as the faculty advisor.

The Mathematics Department ADA, Karry Auby, is also very active in service to the department and the university. The Department is very lucky to have Karry's help in organizing all aspects of the Employment Registry at the AMS/MAA Joint Mathematics Meetings. In addition to her regular job duties on campus, Karry ran workshops to train ADAs and Chairs on the development of department web pages, developed an on-boarding workbook for new faculty in the Mathematics Department which is now being expanded for use campus wide, was elected Vice-Chair of the Classified Staff Council, and continues to serve on multiple university committees. Finally, Karry joined the International Association of Administrative Assistants and attended the IAAP TEC14 Conference.

Summary of Annual Activity 2013-2014

Microbiology Department

The Microbiology Department had a successful 2013 - 2014 school year. The noteworthy accomplishments in *Teaching*, *Scholarship*, and *Service* categories are highlighted below. In addition to teaching, scholarship, and service, the department was involved in several other activities during the year. These are listed under *Other Key Highlights*.

Teaching

The department continued the tradition of offering a wide range of General Education, Core and Elective courses to meet the needs of not only Microbiology and Clinical Laboratory Science majors but also the students majoring in other science and non-science disciplines. As in the past, our *Global Impact of Infectious Disease* (MIC 130) course was a very popular course. This course served 273 students during this year, as compared to 152 students last year. Although there has been significant demand for more seats, at this juncture we are unable to offer more sections of this course due to retirements and reassignments. However, once the department regains its full FTE, the department will examine the potential for fielding additional sections of MIC 130. The other two introductory microbiology courses, *Microbes and Society* and *Fundamentals of Microbiology* also had very good enrollment.

For the first time this year we offered *Immunology* as two separate courses, a lecture (MIC 310) only and a lab (MIC 410) only course. During 2012, the *Immunology* (MIC406) course (lecture and lab combined) had an enrollment of 114. This year lecture portion of the course had 142 students enrolled and the lab portion had 79 students. When the proposal was made to uncouple the lecture and lab components, this type of scenario was predicted. There is a tremendous demand for the lecture course. It will be a challenge to meet this increased demand.

Food Microbiology (MIC 380) has become a very popular elective course. The trend started a few years back and looks like it will continue for foreseeable future. This course serves as an elective for students majoring in microbiology, clinical laboratory science or biology and minoring in microbiology, biology, or nutrition.

In addition to teaching in formal class room setting, the faculty were actively engaged in one-on-one mentoring of undergraduate and graduate students. During the year, faculty and instructional academic staff:

- Served as thesis/project advisors for twenty-four (24) graduate students.
- Served on the graduate committees of another eighteen (18) students.
- Provided opportunity and mentored twenty-eight (28) undergraduates as they pursued independent research.

Scholarship

In spite of shouldering heavy teaching load, the microbiology faculty and instructional academic staff remained very active in their pursuit of scholarship and professional development endeavors. Highlights of scholarship activities include:

- Three manuscripts were published in the peer reviewed journals.
 - One graduate and three undergraduate students are coauthors on one of these publications.

- One manuscript and one book chapter have been submitted for publication.
- Seven presentations were made at National/International meetings.
 - Three graduate and three undergraduate students were coauthors/presenters.
- Five additional presentations were made at Local/Regional meetings.
 - One undergraduate student received second place award for the presentation at the North Central Branch American Society for Microbiology meeting.
- Reviewed twenty manuscripts for prestigious journals such as Journal of Medical Microbiology, Journal of Basic Microbiology, BMC Microbiology, Journal of the World Aquaculture Society, Enzyme and Microbial Technology, Journal of Industrial Microbiology and Biotechnology, Molecular Biology Reports, African Journal of Biotechnology, PLOS One, and Colorado Association for Continuing Medical Laboratory Education.
- Reviewed seven NIH grant proposals.
- Submitted one discovery to the United States Patent Office.
- Received \$46,648 in new grants.
- Four grant applications for a total of \$400,000 are under review

Many faculty members have worked closely with a number of undergraduate and graduate students and have helped them secure Dean's Distinguished Summer Research Fellowships (awarded one this year) and RSEL grants (awarded two this year).

Service

Microbiology faculty and staff have established a strong track record of service. The faculty and staff take pride in serving the college, the university, the profession and the greater community. This past year the department members actively served, in various capacities, on the College, and University Committees. The department members were also active in professional organizations serving in leadership roles, on editorial boards of journals, reviewing journal articles and grant proposals. The department members remained engaged in the community through the outreach activities and by serving on community organizations. Below are a few examples of types of service activities our faculty and staff were engaged in during this past year. Members had leadership roles on many of these committees.

University and College Service

- Faculty Academic Representative (FAR) - Ms. Anglehart is one of two NCAA required FARs on campus.
- Instructional Academic Staff – Chair.
- Academic Program Review – Chair.
- WiscAMP - UW-L Liaison.
- Provost's Select Committee on Internationalization.
- Graduate Council.
- CSAH Assessment Ad hoc Committee.
- Dean's Distinguished Summer Fellowship Committee.
- SAH 307 Oversight Committee.
- HSC Safety Committee.
- UWL Institutional Biosafety Committee – Vice Chair
- HSC Research Committee.
- Joint Promotion Committee.

Professional Service

- Editorial Board Member.
 - World Journal of Clinical Infectious Diseases.
 - Journal of Industrial Microbiology and Biotechnology.
 - Enzyme and Microbial Technology.
- Provide resources to the laboratories that have adopted the *Molecular Biology Manual: Unraveling DNA*. Drs. Rott and Winfrey are coauthors.
- Alternate Councilor, North Central Branch of American Society for Microbiology.

Other Key Highlights

- Ms. Sue Anglehart led a group of students through UW-L Study Abroad Program to learn about Rural Healthcare in India.
- Successfully filled the Pool Associate Lecturer's position.
- We were successful in filling the Bacterial Physiologist position made vacant due to Dr. Michael Winfrey's retirement.
- Discussed and deliberated, extensively, on curriculum, graduate program, and student learning outcomes at our annual retreat.
- Had a brainstorming and strategy session to develop the outlines for next five years.
- In collaboration with the Institute of Biomolecular Science, hosted two seminar speakers.
 - Dr. Dave Boxrud. Minnesota Department of Health
 - Dr. Michael Kyba. University of Minnesota
- Hosted Wisc-e-sota: Joint University of Minnesota and University of Wisconsin-Madison Virology Symposium. About 100 people attended this event.
- Hosted 18th Annual Symposium on Industrial and Fermentation Microbiology. This was one-day long event and featured six speakers. About 90 people attended this event.
- Established an endowed scholarship to honor Dr. Diane Sewell who retired in June from the Clinical Laboratory Science Director's position.
- Conducted molecular biology workshop for students from local high school.
- Participated in Girls and Boys in Science Camps.
- Continued the work with Blair-Taylor High School on developing microbiology and molecular biology labs.
- Provided guidance to middle school students engaged in science fair projects.
- Brought in more than \$15,000 dollars to UW-L Foundation to support scholarships and industrial microbiology symposium.
- Provided scholarships to ten talented students.

Section I: Success Stories

- Monte, A.P., Rott, M.A., Schwan, W.R., Miskowski, J.A., Kabir, M.S., Cook, III, J.M. Broad spectrum Gram-positive antimicrobials and antihelmintics with efficacy against drug-resistant strains and *Mycobacterium* species. US Patent granted September 2013.
- Monte, A.P., Rott, M.A., Schwan, W.R., Witzigmann, C.M. Tiruveedhula, V.V.N.P.B., Cook, J.M. Compounds for the treatment of Gram-positive bacterial infections including resistant strains of *Staphylococcus aureus*. Provisional US Patent Number 61/975,396. Applied April 2014.
- Wisc-e-sota: Joint University of Wisconsin-Madison and University of Minnesota – Twin Cities Virology Symposium. For the first time this joint meeting was held outside of

these two major campuses. Both universities agreeing to hold the symposium on UW-L Campus reflects the strength of our virology program.

- Hosted 18th Annual Symposium on Industrial and Fermentation Microbiology.

Section 2: Students and Programming

- This past year Wisconsin State Laboratory of Hygiene hired three of our Clinical Microbiology Masters students. It is unusual for an agency to hire that many fresh graduates from the same program the same year. This reflects the strength and uniqueness of our graduate program.
- One undergraduate student received 2nd place award in poster competition at North Central Branch American Society for Microbiology meeting.
- One undergraduate student had a poster presentation at National Conference on Undergraduate Research.
- One undergraduate student presented a poster at 114th American Society for Microbiology General Meeting.
- Two undergraduate students were coauthors on a poster presented at the 114th American Society for Microbiology General Meeting.
- Two undergraduate students were coauthors on a poster presented at the Gordon Conference.
- Two graduate students were coauthors on a poster presented at the annual American Association of Immunologists meeting.
- One graduate student was a coauthor on a paper presented at the International Association of Aquatic Animal Medicine's Eastern Fish Health Workshop.
- Fifty five students graduated with Clinical Laboratory Science degree in 2013. Ninety one percent of them are employed by the hospitals and clinics.
- Last year we had proposed to uncouple the lecture and laboratory components from the Immunology (MIC 406/506) course and replace it with two new immunology courses. In the fall of 2013 we implemented the changes. This has made a positive impact on our program. The results can be seen in the increased demand/enrollment in the newly revised Immunology courses.

Section 3: Staffing, Resources and Facilities

- Dr. Diane Sewell, Director, Clinical Laboratory Science Program retired at the end of June 2013. Dr. Michael Lazzari has stepped in as an Interim Director. To cover Dr. Lazzari's teaching assignments we hired a Pool Associate Lecturer in fall.
- Dr. Michael Winfrey retired at the end of the academic year. The department was very successful in hiring an accomplished Bacterial Physiologist to replace Dr. Winfrey. The new candidate will start in fall 2014.
- Dr. S.N. Rajagopal retired at the end of the academic year. The department has constituted a search committee to seek a candidate with food and industrial microbiology experience to replace Dr. Rajagopal. The department hopes to fill the position before the start of spring semester.
- The department is also working on filling the Clinical Laboratory Science Director's position on a permanent basis.
- Long term sustainability of supplies and expense budget is of great concern.
- Maintaining and replacing aging laboratory equipment has always been a challenge.

- Physical space to offer to the students interested in pursuing research experience has been a tremendous challenge.

Section 4: Outreach Activities

- Ms. Sue Anglehart, during J term, led a group of students through UW-L Study Abroad Program to India. The mission was to learn about Rural Healthcare in India.
- In collaboration with the Institute of Biomolecular Science, the department hosted two seminar speakers. Lectures were open to the public.
 - Dr. Dave Boxrud. Minnesota Department of Health
 - Dr. Michael Kyba. University of Minnesota
- Hosted Wisc-e-sota: Joint University of Minnesota and University of Wisconsin-Madison Virology Symposium. About 100 people attended this event.
- Hosted 18th Annual Symposium on Industrial and Fermentation Microbiology. This was one-day long event and featured six speakers. About 90 people attended this event.
- Established an endowed scholarship to honor Dr. Diane Sewell who retired in June from the Clinical Laboratory Science Director's position.
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- Participated in Girls and Boys in Science Camps.
- Continued the work with Blair-Taylor High School on developing microbiology and molecular biology labs.
- Provided guidance to middle school students engaged in science fair projects.
- Brought in more than \$15,000 dollars to UW-L Foundation to support scholarships and industrial microbiology symposium.
- Provided scholarships to ten talented students.

Inclusive Excellence: The department is fully committed to the University's Inclusive Excellence initiative. Our faculty and staff have participated in various on campus presentations and workshops related to this initiative. Through our involvement in McNair Program, Women in Science course, tutoring sessions, Young Scholars program and outreach activities with high schools, we remain fully engaged in the University's Inclusive Excellence initiative. A couple of our faculty members are also involved with the UW System Women and Science Program and have participated in various workshops. The department will continue to draw on their experience to stay focused on the Inclusive Excellence program.

Section 5: 2014 - 2015

- Hire permanent Director for the Clinical Laboratory Science Program.
- Hire a tenure track faculty to replace Dr. Rajagopal.
- Redouble the efforts to recruit majors.
- Seek additional Clinical Preceptor sites for CLS Program.
- Identify and cultivate internship sites.
- Develop a concrete five year plan using the outlines discussed during October meeting with specific emphases on graduate program, undergraduate curriculum, graduate and undergraduate courses, alumni relations, fund raising, outreach, teaching and support staffing needs, and work-life balance issues.

Summary of Annual Activity 2013-2014

Physics Department

SECTION 1: SUCCESS STORIES

What accomplishments would you like to highlight this year:

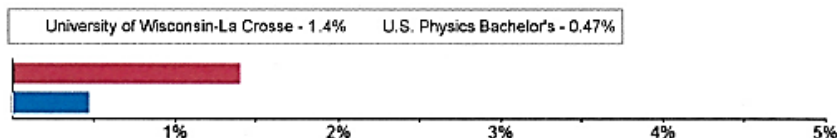
- American Physical Society (APS) Data Confirms UW-L Physics as a Top Performer in the Nation¹

Average Physics degrees granted (2009-2011) - University of Wisconsin-La Crosse

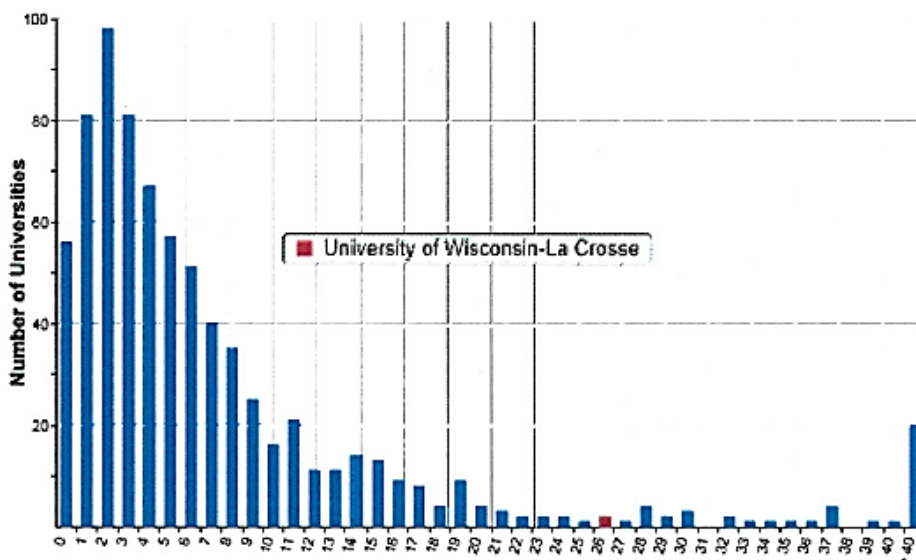
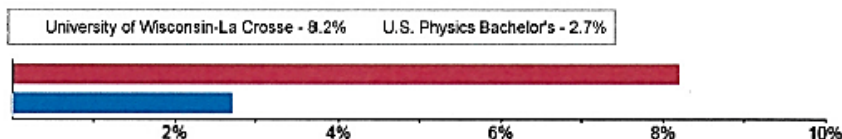
● Bachelor's - 26

Bachelor's Degree Data

What percentage of all bachelor's degrees granted is physics degrees?



What percentage of STEM bachelor's degrees granted is physics degrees?



- Robert Uber** was a physics professor at UW-L for 28 years, serving the campus from 1955 to 1983. Professor Uber passed away in 1996 and his wife, Audrey, and his family established this endowed scholarship (\$25,000) to support junior- or senior-level physics majors. The first recipient of this scholarship, **Miranda Elkins**, received \$1,000 at the

All degree data used in the institutional comparison graphs are presented as 3-year averages using the most recent three years of available data. Degree data is collected from the [IPEDS Completion Survey by Race](#). IPEDS data is collected from every institution that participates in the federal student financial aid programs. Each school appoints a person to complete the IPEDS survey from which the data is gathered.

Data include all physics degrees as well as degrees that are frequently awarded in physics departments, such as engineering physics/applied physics, astrophysics, and physics teacher education. At institutions that have separate departments for e.g. applied physics or astrophysics, the data reflect the total number of degrees awarded in physics and allied departments.

April 2014 Scholarship Program. Audrey and her son, Paul Uber, were present at the event and met the recipient.

- ***Distinguished Lecture Series in Physics (DLS)***
The Physics Department celebrated the fourteenth anniversary of its successful *Distinguished Lecture Series in Physics* (DLS) in October 2013. **Dr. David Wineland, a 2012 Nobel Laureate in Physics** who currently works as the leader of the Ion Storage Group in the Time and Frequency Division of the National Institute of Standards and Technology (NIST), Boulder, CO, served as the UW-L Physics Department's *Distinguished Lecture Series in Physics* speaker on October 10-11, 2013. Dr. Wineland gave a public lecture entitled "**Superposition, Entanglement, and Raising Schrödinger's Cat**" and a physics seminar entitled "**Single Atom Clock**".
- ***Public Lecture Series in Physics (PLS)***
The Physics Department introduced a new lecture series called the *Public Lecture Series in Physics* (PLS) during the spring of 2010. This series is based on the successful *Distinguished Lecture Series in Physics* and brings to La Crosse physicists who can enlighten the public, students, and faculty on topics of current interest. **Dr. M. Darby Dyar** (Kennedy-Schelkunoff Professor of Astronomy at Mount Holyoke College and a member of the science team for NASA's Curiosity Mars rover) visited UW-L as part of the Spring Physics Public Lecture Series on April 30-May 1, 2014, and gave a public lecture entitled "**A Year in the Life of Curiosity on Mars: New Discoveries from the Red Planet**".
- ***UW-L Society of Physics Students Chapter Receives the 2012-2013 SPS Outstanding Chapter Award***
The UW-L Society of Physics Students (SPS) received the American Physical Society (APS) 2012-2013 Outstanding SPS Chapter Award for its involvement in local and national SPS meetings; outreach efforts to grades K-12 or the general public; participation in community service; and interactions with department alumni. This is the third year in a row that the UW-L SPS Chapter has won this national award.
- ***Midwest Regional Biophysical Society Networking Event***
The UW-L Biophysics Group was selected to host a regional networking meeting of the national Biophysical Society. The UW-L Biophysics Group is a joint effort among the departments of Biology, Chemistry, and Physics. The goal was to strengthen collaborations among biophysicists, both in research and education, in Minnesota, Wisconsin, and Iowa. The meeting was held on October 18, 2013 and drew attendees from colleges, universities, industries, and medical research foundations in the region.
- ***74th Annual Physical Electronics Conference***
The UW-L Physics Department was selected to host the **74th Physical Electronics Conference** on June 25-27, 2014. This is the first time the conference has been hosted by an undergraduate institution.

SECTION 2: STUDENTS AND PROGRAMMING

Any update on students' accomplishments/successes during the year that you would particularly like to highlight:

- **Elizabeth Camenga** (Class of 2014) received the **2014 Murphy Award for Academic Excellence** (each year two graduating seniors from UW-L are selected to receive this award). Elizabeth graduated in May 2014 with a BS degree in Physics with Biomedical Concentration and has been accepted into the MD program at the Medical College of Wisconsin, Milwaukee, WI.
- UW-L Physics majors selected for Summer 2014 Research Experience for Undergraduates (REU) programs at Ivy League Schools:
 - **Colin Egerer** – *Cornell University* (Cornell Laboratory for Accelerator-based Sciences and Education), Ithaca, NY.
 - **Lance Hildebrand** – *Johns Hopkins University* (Applied Physics Laboratory), Baltimore, MD.
- UW-L Physics major **Hayden Peterson** (**Mentor: Dr. E. Gansen**) received the Wisconsin Space Grant Consortium (WSGC) 2014 Undergraduate Research Fellowship.
- UW-L physics major **Miranda Elkins** (**Mentor: Dr. E. Gansen**) received the UW-L Summer 2014 Dean's Distinguished Fellowship.
- UW-L Physics majors **Meghan Murray** (**Mentor: Dr. T. Hawkins**) and **Cole Paulson** (**Mentor: Dr. E. Gansen**) received the 2014 UW-L Undergraduate Research and Creativity Grants.
- Four UW-L physics majors presented their research findings at NCUR 2014 at the University of Kentucky, Lexington, KY. Additionally, three physics majors presented at the APS National meeting, three physics majors presented at the Wisconsin Space Grant Consortium Annual Space Conference held at Marquette University, Milwaukee, WI, and one physics major presented at the Midwest Regional Biophysics Networking Event, held at UW-L.

SECTION 3: STAFFING, RESOURCES, AND FACILITIES

A holistic summary of scholarship and grant activity:

Funded External Grants: New

- **Docktor, Jennifer** (Co-Principal), Thompson, John (Co-Principal), Bajracharya, Rabindra (Co-Principal), "Using eye-tracking to support studies of student understanding of definite integrals and the Fundamental Theorem of Calculus in math and physics contexts"(Funded), External Grant, Sponsored by American Association of Physics Teachers (AAPT) Physics Education Research Leadership Organizing Council (PERLOC) Scholar-in-Residence Grant, \$2,500. (January 1, 2013 - January 1, 2014).
- **Gansen, Eric** (Principal), "RUI: Optimizing the Performance of Quantum-Dot-Based Single-Photon Detectors"(Funded), External Grant, Sponsored by National Science Foundation (NSF), \$127,879. (May 31, 2014 - May 31, 2017).
- **Gansen, Eric** (Principal), **King, Seth** (Co-Principal), "The Development of ZnO-Based Electro-Absorption Modulators"(Funded), UW-System Grant, Sponsored by Applied

Research WiSys Technology Advancement Grant (AR-WiTAG), \$25,685. (May 31, 2014 - May 31, 2015).

- **Hawkins, Taviare** (Principal), "Mechanics of Microtubules with Lattice Defects"(Funded), External Grant, Sponsored by Wisconsin Space Grant Consortium, \$16,000. (September 2014 - Present).
- **Hawkins, Taviare** (Co-Principal), Klein, Jennifer (Co-Principal), Grilley, Daniel (Co-Principal) "Biophysical Society Networking Event "(Funded), UW-La Crosse Foundation Small Grant, \$4,000. (July 1, 2013 - June 30, 2014).
- **Hawkins, Taviare** (Co-Principal), Klein, Jennifer (Co-Principal), Grilley, Daniel (Co-Principal) "Biophysical Society Regional Networking Event "(Funded), Biophysical Society Networking Mini Grant for 2013, \$500. (January 1, 2013 - December 31, 2013).
- **Hawkins, Taviare** (Supporting), **King, Seth** (Supporting), **Sudhakaran, Gubbi R.** (Supporting), "A pilot distributed REU site focused on serving physics and astronomy students from comprehensive and community colleges (senior per)"(Funded), External Grant, Sponsored by CUR Physics and Astronomy Division REU National Science Foundation, \$191,240. (June 2, 2014 - Present).
- **King, Seth** (Co-Principal), Dahl, Jennifer (Principal), "Fabrication and evaluation of plasmonic waveguides for enhanced performance of photovoltaic materials"(Funded), UW System Grant, \$9,267. (June 1, 2013 - May 30, 2014).
- **King, Seth** (Principal), "Spray Pyrolysis Fabrication of Zinc Tungstate Thin Films for Photovoltaic Applications"(Funded), UW System Grant, \$44,434. (June 1, 2013 - May 30, 2014).
- **King, Seth** (Principal), "Development of Low-Resistance Zinc Oxide/Zinc Magnesium Oxide Nanolaminate Films"(Funded), External Grant, Sponsored by Wisconsin Space Grant Consortium, \$10,000. (June 1, 2014 - May 31, 2015).
- **Leshner, Shelly R.** (Co-Principal), **Hawkins, Taviare** (Co-Principal), "Promoting Women in Physics & Astronomy Through a Distinguished Lecture Series at UW-La Crosse"(Funded), External Grant, Sponsored by Wisconsin Space Grant Consortium, \$3,846. (March 1, 2014 - May 1, 2014).
- **Ragan, Robert J.** (Principal), "RIP: "Predicting Collisionless Equilibria in Dark Matter Simulations"(Funded), External Grant, Sponsored by Wisconsin Space Grant Consortium, \$10,000. (June 1, 2014 - May 31, 2015).

Funded External Grants: Ongoing

- **Docktor, Jennifer** (Principal), **Sudhakaran, Gubbi R.** (Co-Principal), "Revitalizing Physics Teacher Education at the University of Wisconsin-La Crosse"(Funded), External Grant, Sponsored by Physics Teacher Education Coalition (PhysTEC), via National Science Foundation and American Physical Society, \$152,203. (August 1, 2012 - July 31, 2015).

- **Leshner, Shelly R.** (Principal), "RUI - Vibrational Structure of the Gd Isotopes"(Funded), External Grant, Sponsored by National Science Foundation, \$145,000. (May 14, 2012 - May 13, 2015).
- **Sudhakaran, Gubbi R.** (Principal), **Docktor, Jennifer** (Co-Principal), Hanson, Cheryl (Co-Principal), Redman, Jerry (Co-Principal), "Mathematics and Science Partnerships Program" (Funded), External Grant, Sponsored by Wisconsin Department of Public Instruction, \$156,436. (August 1, 2013 - July 31, 2014).

Publications:

- **Barnes, E. I., Ragan, R. J.** (2014). Dynamics of One-dimensional Self-gravitating Systems Using Hermite-Legendre Polynomials. *Monthly Notices of the Royal Astronomical Society*, 437(3), 2340. (Published: January (1st Quarter/Winter) 2014).
- Ross, B., Mestre, J., **Docktor, J.** *Understanding how to teach physics understanding in* (Book title pending). Washington University. (Submitted: January 4, 2013, Accepted: October 2013).
- **Docktor, J.**, Mestre, J. A Synthesis of Discipline-based Education Research in Physics. *Physical Review Special Topics - Physics Education Research*. (Submitted: August 8, 2013, Accepted: June 2014).
- Kim, J., McKay, K. S., Kwiat, P. G., Zielnicki, K., **Gansen, E.** (2013). In Migdall, A., Polyakov, S. V., Fan, J., Bienfang, J. C., Lucatorto, T., Parr, A. (Ed.), Chapter 5: Novel Semiconductor-based Detectors in *Experimental Methods in Physical Sciences* (vol. 45, pp. 147-183). Philadelphia, PA: Elsevier. (Published: December 2013).
- **Gansen, E.**, Rowe, M. A., Harrington, S. D., Nehls, J. M., Etzel, S. M., Nam, S. W., Mirin, R. P. (2013). Temperature Dependence of the Single-Photon Sensitivity of a. *Journal of Applied Physics*, 114, 93103. (Published: September 6, 2013).
- Bailey, M., Conway, L., Gramlich, M., **Hawkins, T.**, Ross, J. L. (2013). Modern Methods to Interrogate Microtubule Dynamics. *Royal Society of Chemistry, Integrative Biology*, 5, 1324-1333, (Submitted: May 31, 2013, Accepted: September 2013, Published: September 24, 2013).
- Bailey, M., Conway, L., Gramlich, M., **Hawkins, T.**, Ross, J. L. (2013). Modern Methods to Interrogate Microtubule Dynamics. *Integrative Biology HOT Article, Royal Society of Chemistry, Integrative Biology*, (Published: November 11, 2013).
- Johnson-Steigleman, T., Parihar, S., **King, S.**, Lyman, P. (2013). Ag as a surfactant for Co/MgO(111)-(rt 3 x rt 3)R 30. *Journal of Vacuum Science and Technology A*, 31(6), 061518. (Accepted: October 2013, Published: November 13, 2013).
- Curtis, N., Almaraz-Calderon, S., Aprahamian, A., Ashwood, N. I., Barr, M., Bucher, B., Copp, P., Couder, M., Fang, X., Freer, M., Goldring, G., Jung, F., **Leshner, S. R.**, Lu, W., Malcolm, J. D., Roberts, A., Tan, W. P., Wheldon, C., Ziman, V. A. (2013). Investigation of the 4 alpha linear chain state in ¹⁶O. *Physical Review C*, 88, 064309. (Published: December 6, 2013).

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- Sauvage, J., Roussiere, B., Genevey, J., Franchoo, S., Andreyev, A. N., Barre, N., Braham, A. B., Bourgeois, C., Clavelin, J. -F., De Witte, H., Fedorov, D. V., Fedoseyev, V. N., Fraile, L. M., Grave, X., Huber, G., Huyse, M., Kilcher, P., Koster, U., Kunz, P., **Leshner, S. R.**, Marsh, B. A., Mukha, I., Oms, J., Porquet, M. G., Seliverstov, M., Stefanescu, I., Van de Vel, K., Van Duppen, P., Volkov, Y. M., Wojtasiewicz, A. (2013). Decay of ^{185}Tl , $^{185\text{m}+g}\text{Hg}$, $^{189\text{m}+g}\text{Pb}$ and energy location of the $13/2^+$ isomeric states in ^{185}Hg , ^{189}Pb , ^{193}Po and ^{197}Rn . *European Physical Journal A*, 49, 109. (Published: September 6, 2013).
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Other Activities:

- Physics Department faculty members (**Drs. J. Docktor, E. Gansen, T. Hawkins, S. King, S. Leshner, R. Ragan, R. Salgado, G. R. Sudhakaran, and S. Sallmen**) gave 18 presentations at National/International conferences during the 2013-2014 academic year.
- Physics Department faculty members (**Drs. E. Barnes, J. Docktor, E. Gansen, T. Hawkins, S. King, S. Leshner, R. Ragan, R. Salgado, and S. Sallmen**) mentored 49 undergraduate students on various research projects during the 2013-2014 academic year
- **Drs. R. Ragan, G. R. Sudhakaran, and S. Verrall** served as external evaluators/examiners on Promotion and Graduate thesis committees.

The status of resources and facilities with a particular emphasis on any changes, challenges, and developments during the year:

The department offers PHY 374 (Computational Physics) regularly during the fall semester. This course is usually taken by students majoring in Physics with emphasis in Computational Physics and also by physics majors interested in pursuing graduate studies. Scheduling this course has become a challenge due to space and equipment problems. The course has a laboratory component and meets twice a week for six hours (three hours lecture and three hours lab). Previously, the course was taught in CH210 but this room is now used for PHY 311 (two sections) which meets on Tuesdays and Thursdays. In addition, CH210 also serves as a general access computer lab for all physics majors and is heavily used by our students. Because of its heavy current usage, no further time can be scheduled in this room. Conversely, there are other rooms available but they have no computers. Therefore, a potential solution to this problem is to buy 5-10 laptop computers allocated specifically to the

PHY 374 course so that the lectures/labs can be held in whatever room happens to be available.

SECTION 4: OUTREACH ACTIVITIES

Inclusive excellence opportunities, events, and ideas put forward during the year:

To encourage recruitment and retention of historically underrepresented groups in physics, we continue to send out a revised recruitment letter which is more welcoming. In addition, various faculty members have completed professional development activities relating to student retention issues in STEM. The department's Inclusive Excellence committee has identified potentially useful research on how various pedagogical choices affect underrepresented groups in STEM courses, and will be disseminating this information to the department, as well as investigating further. In Fall 2013, the departments of Biology and Physics co-sponsored a Public Lecture Series (PLS). In Spring 2014, the department sponsored its third PLS in Physics and hosted a speaker for the Physics seminar series. All three were female speakers, and two were minorities. The Physics PLS and the department seminar speakers were able to meet with Physics students in small informal settings. During these meetings, the speakers discussed their pathways to their careers in academia as both scientists and women. The department continues to maintain its sixty percent diversity statistics (four women, four minorities).

- ***Public Lecture Series in Biology and Physics***

The departments of Biology and Physics co-sponsored a Public Lecture Series with the help of a Provost **Visiting Scholar of Color Grant**. On November 1, 2013, **Dr. Mandë Holford**, a chemical biologist from Hunter College, presented a public lecture entitled **"Lessons from nature: Drug discovery from venomous marine snails."**

- ***Physics Seminar Speaker***

On April 25, 2014, **Dr. Sujatha Sampath**, a Postdoctoral Researcher at UW-Milwaukee, presented her research entitled **"A spider's silk and the nano world,"** at the weekly physics departmental seminar. Dr. Sampath also spoke to the Women in Physics group about her upcoming 5th International Union of Pure and Applied Physics - International Conference on Women in Physics, which will be held in Waterloo, Ontario, Canada, in August 2014.

- ***Public Lecture Series in Physics***

The Physics Department introduced a new lecture series called the *Public Lecture Series* (PLS) during the spring of 2010. Modeled on the successful *Distinguished Lecture Series*, the PLS brings to La Crosse physicists/astrophysicists who can enlighten the public, students, and faculty on topics of current interest. **Dr. M. Darby Dyar**, Kennedy-Schelkunoff Professor of Astronomy at Mount Holyoke College and a member of the science team for NASA's Curiosity Mars rover, visited the campus from April 30 - May 1, 2014 and presented a public lecture entitled **"Calibrating ChemCam: Analytical Chemistry at Arm's Length"** and a physics seminar entitled **"A Year in the Life of Curiosity on Mars: New Discoveries from the Red Planet."**

- ***Physics shows for Rufus King International School Students from Milwaukee***

Physics faculty performed the physics show **"The Magic of Physics"** for 6th graders from Rufus King International School, Milwaukee, WI, on July 8, 2013 and for 8th graders on

July 10, 2013. The students were on an Academic Field Trip to UW-L which was sponsored by the UW-L Admission Office.

A summary of international activities and opportunities offered this year:

The UW-L Physics Department is setting up a dual degree program in Physics Engineering at the Middle East University in Ras Al Khaima, UAE. Administrators from both universities have met several times since August 2013 and the Memorandum of Understanding (MOU) has been signed by UW-L and MEU Officials.

Information on what sorts of fundraising and community engagement activities have been attempted, and their outcomes, this year:

- ***Robert Uber Scholarship Fund in Physics***
Robert Uber was a physics professor at UW-L for 28 years, serving the campus from 1955 to 1983. Professor Uber passed away in 1996 and his wife, Audrey, and his family established this endowed scholarship (\$25,000) to support junior- or senior-level physics majors. The first recipient of this scholarship, **Miranda Elkins**, received \$1,000 at the April 2014 Scholarship Program. Audrey and her son, Paul Uber, were present at the event and met the recipient.
- **Drs. S. King, T. Hawkins, R. Ragan and E. Gansen** conducted Physics and Laser Light Shows for approximately 700 local elementary and middle school students. UW-L physics student helpers included **Taylor Bailey, Scott Erickson, Joseph Krueger, Cole Paulson, and Hayden Peterson**. The group presented eight shows on May 20-23, 2014.
- **Mr. R. Allen**, Planetarium Director, presented planetarium shows for local schools and organizations throughout the year. A total of **174 presentations** (with a total **attendance of 4,301**) were done in the planetarium in 2013-2014, broken down as follows:

Astronomy Students – 44 presentations:	1,018
University Groups – 12 presentations:	255
Album Encounters – 27 presentations:	399
Private Groups – 26 presentations:	741
School Groups – 41 presentations:	1,521
Public Programs – 24 presentations:	<u>367</u>
Total:	4,301
- **Dr. J. Docktor** continues to incorporate service learning into PHY 106 (Physics for Educators). Students in the course performed interactive demonstrations and activities at the La Crosse Children's Science Museum on Saturdays during the Fall 2013 and Spring 2014 semesters.
- The Physics Dept. coordinated a Physics Fair event for 385 sixth graders from three local middle schools over three days (April 22-24, 2014) at the Eco-park environmental center. We planned the equipment and activities for a whole-group demo show and 15 individual tables, and recruited more than 80 faculty and student volunteers to assist with the event. Approximately half of the volunteers were from the PHY 106 course Physical Science for Educators, and half were students from PHY 204 (primarily physics majors).

SECTION 5: 2014-2015

Plans and Focus for 2014-2015:

- ***Assessment Of Student Learning***

The Physics Department is committed to assessing its courses and making sure that it is meeting its program goals. Our instructors employ several assessment tools and regularly modify their courses in response to both direct and indirect measures of student achievement. The Physics Department has a special committee that oversees its assessment activities and strives to assess all of its program goals by monitoring both the knowledge and skills of its current students and the achievements of its alumni. In addition to assessing individual courses, the Department has developed a “Capstone in Physics” course (PHY 491) for seniors that directly probes student proficiency in several program goal areas. It also developed an alumni survey to assess how well the program prepares its students for jobs and graduate studies, and to determine the impact the physics program has played in the lives of its alumni. In addition, the Department tracks the grade-point averages of its many dual-degree students at their engineering schools to measure the success of these students in their engineering coursework.

Notable results of this year’s assessment activities include the following:

- **Curricular changes in workshop-style courses - PHY 203 and 204:** A substantial curricular modification we made recently focused on the format of our introductory calculus-based physics sequence (PHY 203/204). In 2011/2012, we changed the format of these courses from the traditional lecture and lab format to workshop style, where there are no lectures, and hands-on laboratory activities are incorporated directly into the class period. This change was made in response to nation-wide assessment data that shows that students perform better on standardized physics exams when the workshop format is used. To track how the format change has impacted our students’ knowledge and problem-solving skills in the areas of Newtonian mechanics, and electricity and magnetism, we have been implementing the *Mechanics Baseline Test* (MBT) in PHY 203 and the *Conceptual Survey and Electricity and Magnetism* (CSEM) in PHY 204. A summary of recent results is given in the Table below. In addition, student perceptions of the new format are collected through SALG surveys specifically tailored to these courses.

PHY 203: MBT Results	2011	2012	2013
Pre-Test Average Score (%)	41.7	39.0	42.1
Post-Test Average Score (%)	57.8	54.7	57.1
Average Gain (%)	27.6	25.7	25.9

PHY 204: CSEM Results	2012	2013	2014
Pre-Test Average Score (%)	27.8	29.4	29.4
Post-Test Average Score (%)	56.9	56.3	60.3
Average Gain (%)	40.5	38.9	43.7

Assessment results are being used to improve the courses on a yearly basis and to monitor the proficiency of the students. Test scores on the MBT and CSEM indicate that our students continue to perform at or above the national averages in terms of gain on these exams. Feedback from students over the past few years has indicates that many students do like the hands-on and social nature of the new format, but that improvements can be made. This year, in response to student feedback that indicated

that the original workshop class periods (2.5 hours) were too long, we shortened the classes on Tuesdays and Thursdays to two hours and added a one-hour long discussion session on Fridays.

Student responses on surveys have also indicated that they are spending an inadequate amount of time on course homework and that students are not seeking help when they need it. The homework in PHY 203 and PHY 204 is not graded, and some students indicate that receiving credit for the homework would help motivate them to spend more time on it. As a result, we are implementing changes aimed at increasing student accountability in regards to homework and providing students with more help in real time. Next year (Fall 2014 and Spring 2015) we will use a new text book (*University Physics*) and an online resource (“Mastering Physics”) in PHY 203 and PHY 204. With the new online resources, instructors will be able to monitor and grade student homework. Instructors will also be able to (a) selectively activate help functions within “Mastering Physics” so that students can get immediate help; and (b) randomize problem variables to deter cheating. The hope is that by making students more accountable for their homework and providing students with more real-time help, we will increase student productivity outside of class and, as a result, see better performance and understanding.

- **Assessment of undergraduate research:** One of the hallmarks of the UW-L Physics Program is its dedication to undergraduate research. Recently, we began assessing our undergraduate research program with a focus on determining how many of our physics majors are getting involved in research (either with UW-L faculty or through an external REU) and how many are presenting their research results, either at conferences or through published papers. Overall, we would like to know how getting involved in undergraduate research impacts the ability of our students to gain acceptance and funding to graduate programs or to obtain jobs in STEM fields. During the 2012/2013 academic year (our first year of data collection), 44 physics majors took part in student/faculty collaborative research, with nine majors conducting research over the summer. These research experiences produced 28 student presentations at local, state, or national conferences.
- **Offering two sections of PHY 343 (Thermodynamics) in the spring of 2015:** Thermodynamics (PHY 343) is a required course for our physics majors and physics/engineering dual degree majors. Currently, the course is taught using an engineering-specific textbook to accommodate the curricular requirements of our partnering engineering programs. In response to student feedback and based on assessment results, we will be offering an additional section of PHY 343 in the spring of 2015 that is better suited for our physics majors. The course will be taught using a physics-specific textbook and will emphasize concepts and topics that include thermodynamics and statistical mechanics, which are particularly important for graduate studies in physics.

A summary of foreseeable challenges and opportunities going forward:

UW-L and UW-Madison established a dual degree program in Physics/Engineering in November 1994. The program has been very successful and attracts quality students to the UW-L physics program. Since its inception, more than 150 students have graduated with both an engineering degree from UW-Madison and a Physics degree from UW-L.

Recently, UW-Madison suspended our most successful dual degree program agreement (due to a high demand for seats in their College of Engineering). If the dual degree program with UW-Madison is phased out, it will adversely affect our enrollment. We could lose 40-50% of our incoming freshmen.

UW-Madison is interested in renegotiating the conditions and requirements for admission to the College of Engineering for all UW-L physics/engineering dual degree students.

A meeting was held on June 19, 2014 between the Dean of the UW-Madison College of Engineering and the dual degree coordinators from the other UW campuses who hold a dual degree agreement with Madison.

Suggestions for how the Provost and Vice Chancellors might be of assistance in your efforts:

Any assistance from the Dean, Provost and Vice Chancellors to keep the Physics/Engineering dual degree program alive with UW-Madison is immensely appreciated.

Summary of Annual Activity 2013-2014

Department of Recreation Management and Therapeutic Recreation

The 2013-2014 academic year was a good one for the Department of Recreation Management and Therapeutic Recreation. With a retirement and 11/2 new GQA positions, the department is progressively taking on a new face. The reports summarize the past year.

Section 1: Success Stories. A few of the highlights of the year are:

Departmental accomplishments.

- **Enrollment in the therapeutic recreation undergraduate program.** The number of students who want to major in therapeutic recreation has grown dramatically (from 170 undergraduates to approximately 270 in the past few years). Graduates are finding jobs or getting into masters programs in the health professions (e.g., physical therapy, occupational therapy). While the TR faculty does not want to have an enrollment cap, it may be necessary as enrollment now exceeds the number of students that the Department can serve well.
- **Articulation agreement with MATC.** UW-L has completed an articulation agreement with the two-year recreation program at the Madison Area Technical College. If students graduating from that program select their MATC courses carefully, over 50 credits will apply to the recreation management program at UW-L.

Opportunities to further leverage these accomplishments in terms of public relations or strategic planning. For Fall 2014, the Department of Recreation Management and Therapeutic Recreation will be the featured department in the College of Science and Health's newsletter. These accomplishments, along with plans for the future, will be highlighted. More importantly, these accomplishments will be elements of the 2014-2015 reaccréditation self-study. Also the department finally has developed its own Facebook account, so these accomplishments are made available to alumni and others who check out our Facebook page.

Section 2: Students and Programming. The following are accomplishments of students and notable changes in programming:

Students' accomplishments/successes during the year. Nine undergraduates completed their undergraduate research projects, and seven graduate students completed their theses or graduate projects. Graduate student Tommy Means was named an Academy of Leisure Sciences Future Scholar. This award goes to two students in the country who show potential as a Ph.D. student in the field of recreation.

Additional monitoring/redesign to programs. After minor revisions in all four programs (2 undergrad and 2 grad) during 2012-2013, no changes in curriculum occurred in 2013-2014. Therapeutic recreation has started a widespread review of its curriculum, its two goals to update content and eliminate redundancy. A hope is that the program can remove one 3-credit course without compromising quality. This would 1) make it easier for students to complete the program in a timely manner and 2) free up a faculty member to teach additional sections of other courses as the number of majors continues to grow. One positive result of additional faculty has been the ability to teach multiple sections of 400/500-level TR courses; as the result TR has been able to place undergraduate students and graduate students into different sections from each other.

As with all other departments in the College of Science and Health, RM&TR redesigned its assessment plan. This plan coincides with requirements for national program accreditation.

New non-curricular programs. The therapeutic recreation program hosted its first workshop specifically for TR professionals. Sixty-three Certified Therapeutic Recreation Specialists (CTRSs) received CEUs for attending an on-campus program about strength-based approaches to therapeutic recreation. Many of the participants supervise UW-L interns, so it was also an excellent way to thank TR professionals for their service to UW-L.

Section 3: Staffing, Resources and Facilities.

Staffing. A few noteworthy staffing changes occurred for 2013-2014. They are:

- Three (3) successful searches. Nancy Richeson (TR), Kate Evans (RM), and Dan Plunkett (RM) will join the department August 2014.
- Nancy Navar's retirement January 2014
- Stephen Lewis' resignation, effective August 2014
- One failed search for a 2-year IAS position in therapeutic recreation. This position was a combination of a new 1/2 GQA position and the 1/2 replacement cost for Steve Simpson (serving as university graduate director).

For 2014-2015, there will be a search and screen to replace Stephen Lewis. With the one year remaining on the IAS position, that position will be filled using RM&TR hiring pool.

The 2013-2014 academic year was the third year of the three-year terms for the current departmental administrators (chair and three program directors) in the Department of Recreation Management and Therapeutic Recreation. With the exception of the director of the therapeutic recreation undergraduate program, these administrators will remain the same for the upcoming three-year term. Steven Simpson will remain as chair, Jearold Holland as graduate director, and Daniel Widuch as recreation management program director undergrad. Boon Murray will become interim program director for the therapeutic rec undergraduate program.

Resources. With increases in the equipment and supplies budget for 2013-2014, the department should be able to cover its own expenses in the coming year. 2014-2015 and 2015-2016 will have costs associated with reaccreditation (reaccreditation occurs every seven years).

Facilities. With the addition of several GQA positions in the past three years, the size of the RM&TR faculty finally has outgrown our suite of offices on the 2nd floor of the Health Science Center. For 2014-2015, all graduate assistants and adjunct instructors will be housed in various offices in the basement and on the 4th floor of HSC (offices previously occupied by Biology GAs and the UW- Madison Nursing). Once we are fully staff, some faculty members will have to permanently relocate to the 4th floor offices.

A second impending issue will be adequate gymnasium space for the department's handful of courses that require a large space. RM&TR used the Wittich Gyms in the past. As soon as Wittich Hall is closed permanently, the department will need space in the heavily booked Mitchell Hall gyms. Already the therapeutic recreation aquatic courses have been discontinued due to the unavailability of a therapeutic pool.

Scholarship and Grants. Several noteworthy scholarly accomplishments occurred during the past academic year. Jearold Holland published his book, *Cultural Competence in Recreational Therapy*, with Idyll Arbor Press. In addition to Dr. Holland's book, faculty members published a total of nine journal articles and book chapters; they made 19 scholarly presentations and seven service presentations. They acquired \$13,000 in research and service grants.

Staff Development Plan for the year. For 2014-2015, faculty will continue to be encouraged to attend/present at CATL offerings and to attend/ present at conferences that afford professional development opportunities.

In 2013-2014, the Department experimented with monthly meetings/trainings between the chair and junior faculty (one meeting for tenure track faculty, one meeting for IAS). With new tenure track hires and adjunct instructors teaching over a dozen courses for the department during the upcoming year, this practice will be expanded.

Section 4: Outreach Activities.

Inclusive Excellence opportunities, events, and ideas put forward during the year.

Therapeutic recreation continues to teach several courses about providing recreation services to people with disabilities.

A summary of international activities and opportunities offered this year. No travel courses were offered during the 2013-2014. Two faculty members (Chung, Simpson) made presentations in Asia, and Jin Young Chung continues his ongoing research efforts in Asia.

Fundraising and community engagement activities. As always, the students and faculty in RM&TR provided many hours of off-campus service. This includes faculty serving on recreation-related boards (e.g., Onalaska Recreation and Park Board, Mental Health Coalition of the Greater La Crosse Area, Wisconsin Conservation Corps) and making service presentations in the community (e.g., Bluff Country Resources). All undergraduate and most graduate students provide 50- 100 hours of service, then complete a full semester internship in a recreation-related agency. Students, through their employment, volunteerism, internships, and service learning opportunities, work at dozens of agencies in the Coulee region (e.g., Boys and Girls Club, Hillview, Chileda, YMCA)

Section 5: 2014-2015.

Plans and focus for 2014-2015. The department seeks reaccreditation during the 2014-2015 academic year. Although the following list includes many tasks, all will take a backseat to the work needed for reaccreditation.

Reaccreditation. Through COAPRT (Council on Accreditation of Parks, Recreation, Tourism and Related Professions), the department will complete two of three stages for reaccreditation. Stage One is a written self- study. Stage Two is hosting a visitation team. Stage Three (which will occur Summer and Fall 2015) is responding to the visitation team's report in both writing and in-person at the 2015 NRPA (National Recreation and Park Association) Annual Conference.

Enrollment Management. The two undergraduate programs in the department have opposite problems in terms of enrollment. Because therapeutic recreation is a very good degree for students seeking advanced degrees in the health professions, enrollment is beyond what the

department can handle (in spite of additional GQA positions). TR must figure out a way to maintain quality and still admit as many students as is reasonably possible. Recreation management, on the other hand, has experienced a gradual decline in the number of majors. This past year, RM took a few steps to market the major (e.g., presented to the Advising Center, set up a table at freshman orientation), but the efforts have been haphazard. During the spring, the program completed a SWOT analysis, and for Fall 2014 the RM faculty will develop a marketing plan.

On-line Masters Degree. During the 2013-2014 year, the department and Continuing Education & Extension surveyed recreation professionals about the viability of an on-line masters in recreation management. This program would be very similar to the on-campus masters, but designed for professionals working full-time in the field. RM and CEE will review the survey results and, if positive, will design an on-line curriculum and apply for an on-line development grant.

UW-Baraboo and Winona State University. Two efforts that have are not high on the department's priority list, but remain long-term projects are articulation agreements with UW-Baraboo and Winona State University. The Baraboo project is a 2+2 program for Dells area students interested in tourism. A couple of obstacles have put us back to the beginning of the planning process. The Winona State project is an agreement to make it simple for graduate students at UW-L and Winona to take courses at each other's institution. This collaboration is near complete and could be finalized in the coming year.

A summary of foreseeable challenges and opportunities going forward. For the coming year, reaccreditation and the high enrollment in therapeutic recreation are the two challenges that will take precedence over all others. For the past two years, the department has had two failed searches in therapeutic recreation. A national shortage of TR faculty complicates UW-L's challenge to fully staff the TR programs and address the heavy demand for the major.

Suggestions for how the Provost and Associate Vice Chancellors might be of assistance in your efforts. In 2013-2014, the department did not use its entire supplies and equipment budget (some shifts have been made for 2014-2015). At the same time, the department could not offer all of the classes that it needed to offer. Any suggestions on how to shift S&E to the immediate need to offer more courses in therapeutic recreation would be welcome. Part of the justification for recently approved GQA positions was to develop new programming, but these positions have used almost exclusively to handle increased enrollment and try to maintain a status quo.



The McNair Scholars program at UW-L began in 2009 and serves 28 students annually, at least 50% of whom have STEM majors each year. Our objectives are to increase the number of underrepresented students of color, and low-income, first-generation students, who prepare for, pursue, and persist in graduate studies in fields leading to a Ph.D. It is funded through the U.S. Department of Education with additional financial support from the Provost and the College of Science and Health.

In the summer of 2014, we supported 9 on-campus undergraduate researchers. One additional student was supported with a Dean's Distinguished Fellowship, and two others were competitively selected as Future Public Health Leaders internships at Columbia University and the University of Michigan.

In 2013-2014, we had 11 graduates, 8 of whom (73%) will begin graduate school in the fall of 2014:

- Medical College of Wisconsin (Virology)
- University of Wisconsin (Medicine)
- University of Texas-Austin (Latin American Studies & Public Policy)
- Stony Brook University (Art)
- University of Minnesota-Twin Cities (Urban Planning)
- Washington University in St. Louis (Social Work)
- University of Michigan (Social Work)
- Texas A & M University- Corpus Christi (Aquatic Biology)

20 program alumni began or continued their graduate studies in 2013-2014, and 2 additional alumni will enroll as graduate students for the first time in 2014-2015—one at the University of Alabama (Anthropology), and one at the University of Maryland-Baltimore County (Microbiology).

Below is a list of advanced degrees conferred to McNair alumni in 2013-2014:

- Rutgers University, M.S.W., Social Work
- UT-Austin, M.A., African & African Diaspora Studies
- UMN-Duluth, M.A., English
- UW-L, M.S.E.D., Student Affairs Administration – x 3
- UW-L, M.S., Biology



The First Year Research Exposure (FYRE) program is an academic diversity initiative in the UW-L College of Science and Health (SAH) and the Wisconsin Alliance for Minority Participation. It employs an informal learning community model in order to improve achievement and retention of first-year students of color at UW-L in the STEM fields. From 2012-2014, we have served 22 eligible students.

Students each year participate in a minimum of 12 distinct research Exposure Modules, where they earned about current STEM research happening on campus and in the community. Examples include participation in UW-L's Faculty Research Day; tours of Mayo Graduate School and the Gundersen Lutheran Medical Research facilities; volunteering at the National Conference for Undergraduate Research; visits to the University of Minnesota's greenhouses and veterinary programs; and visiting laboratories and field sites of undergraduate, graduate and faculty researchers.

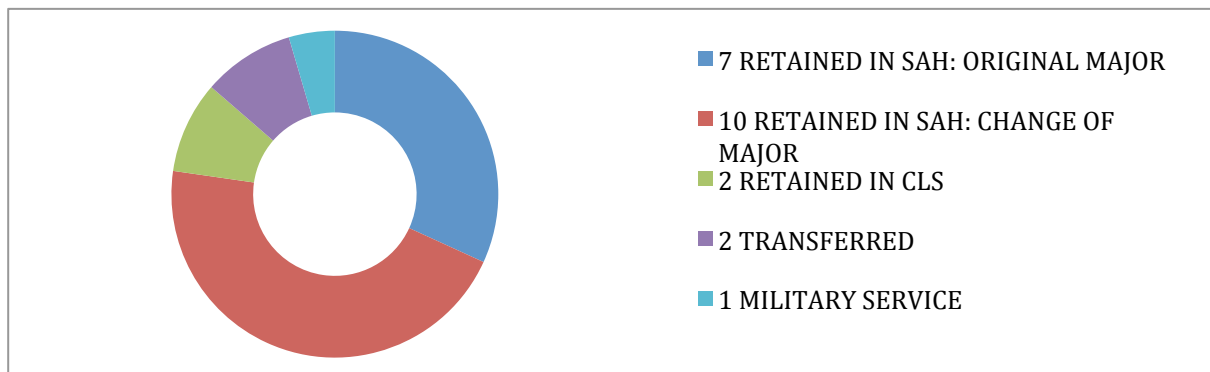
For reference, the Office of Institutional Research has calculated the completion rates for Math General Education requirements for all UW-L underrepresented students of color in their first two years as follows:

- 18.8%: Native American students
- 39.4% African American students
- 43.1% Southeast Asian students
- 52.4% for Hispanic students.

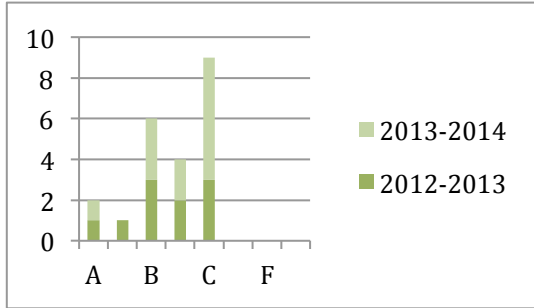
From 2012-2014, FYRE students met this requirement at a rate of 59.2%

According to the Equity scorecard data compiled by OIR in the summer of 2013, completion rates for first-and second-year underrepresented students of color in Natural Lab Science General Education classes range from 36.4% for African American students to 69.4% for Hispanic students.

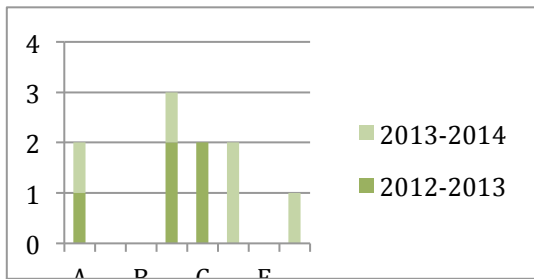
From 2012-2014, 100% of FYRE students met the BIO 105 requirement on their first attempt, and 70% of participants earned a C or better in CHM 103.



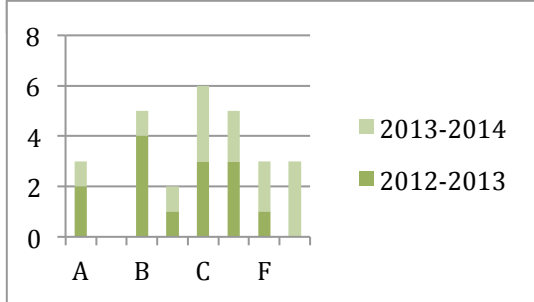
BIO 105



CHM 103



MTH 145,
150, 151



Murphy Learning Center

2013-2014 Year-End Report

Submitted by Lee Baines
Murphy Learning Center Director

The Murphy Learning Center (MLC) provides tutoring services in Mathematics, Sciences, and Writing, housing more than 100 student employees or volunteer tutors. The following items summarize MLC activities for the 2013-2014 Academic Year. The MLC daily usage counts exceeded 20 000 students for AY 2013-2014, representing a substantial increase from 2012-2013.

- 1) Background
- 2) Student Usage
- 3) Tutors
- 4) Assessment
- 5) Advisory Committee
- 6) Faculty and Staff
- 7) Facilities
- 8) Outreach
- 9) Future Plans

Background

The Murphy Learning Center (MLC) was established in the fall semester of 2009. Prior to that point, departments on campus offered tutoring services in classrooms, office spaces, and even the basement of the Whitney Dining Center. Student-led initiatives spurred on the development of a single primary location for the tutoring services. The MLC is mainly funded by UW-L Differential Tuition with departments providing some additional funds for tutoring expenses; a proposal is submitted each fall to the Academic Initiatives Oversight Committee which allocates funding out of Differential Tuition. The MLC has been funded through AIOC since 2010.

During summer 2013, major renovations were undertaken in the MLC, resulting in the floor space and capacity of the MLC more than doubling. In addition to increased space and capacity, the MLC received new technology to support tutoring, a centralized log-in system for students, a flexible floor plan that can be adjusted as needs change and a dedicated space for tutors to sign in for their shift, store their belongings and study when not working.

The primary purpose of developing the MLC was to house a variety of tutoring services in one area (Murphy Library) where students go to study and learn. In 2009, the MLC offered tutoring in the areas of Mathematics, Physics, and Writing. Throughout the following semesters, Biology, Chemistry, Microbiology and Earth Science were added. The Public Speaking Center was added to the MLC in fall 2013 and Accountancy was added in spring 2014.

The mission of the Murphy Learning Center is to foster an inclusive environment where academic learning flourishes. This goal is accomplished in several ways: 1) by providing a welcoming environment where students can undertake group learning with and without tutors 2) enhancing the academic learning and content understanding of students and 3) enhancing the skills of tutors to become content experts and peer mentors.

Student Usage

Students continue to utilize all of the resources at the Murphy Learning Center. Our student contacts continue to show an enormous increase in the overall number of times students utilize the MLC.

Table 1 shows data for 2012-2013 and 2011- 2012. Science counts include the disciplines of Biology, Chemistry, Physics, Microbiology, and Earth Science.

Table 1. MLC student usage data for academic years 2012-2013 and 2011-2012.

	AY 2011-2012	AY 2012-2013
Mathematics	4400	4550
Science	2400	2250*
		(missing CHM Spring '13)
Writing	1600	1870
Total	8400	8670+

Table 2. MLC student usage data for academic year 2013-2014, broken down by each department.

	Fall 2013	Spring 2014	Total
Accountancy	Not in MLC	165	165
Biology	2366	1241	3607
Chemistry	1306	2276	3582
Earth Science	40	63	103
Mathematics/Statistics	5206	4276	9482
Microbiology	59	48	107
Physics	510	436	946
Public Speaking Center	139	331	470
Writing Center	1020	895	1915
Total	10646	9731	20377

Table 2 shows data for academic year 2013-2014, gathered via Qualtrics as students enter the MLC. Qualtrics allows for the gathering of more detailed data than was previously possible. Student net IDs are recorded with data on whether they are at the MLC to see a tutor or for office hours and the subject and class they are there for. The MLC saw an increase of 135% year-on-year between 2012-2013 and 2013-2014. The increase in students utilizing the MLC can be attributed to a variety of factors. In previous semesters the demand for the services in the MLC outstretched the physical space available for the students to sit. Post-renovation this issue has been mitigated significantly. The new space has attracted more instructors to hold office hours in the MLC, increasing the awareness of many students of the MLC. Instructors from Math, Biology, Chemistry and Physics utilize the MLC daily. In addition to this, a general increase in faculty knowledge of the MLC services, a push for faculty to put a standardized line about MLC services on course syllabi, an online presence (website continually updated), and a greater attention by tutors and front desk workers to the sign-in process and classroom visits by tutors, has helped increase usage of the MLC.

Tutors

The Murphy Learning Center has over 100 students who are employed or volunteer as tutors. This represents approximately a 50% increase from the previous year. All tutors must apply for a position; MLC advisors conduct interviews with each potential tutor before hiring. The MLC also employs work-study students to assist in front desk coverage and daily operations. Four work-study students have been requested to work on the front desk for the AY 2014-2015. This increased coverage will ensure that the MLC attends to its mission of creating a welcoming space for all students.

MLC Advisory Committee

Within each discipline, a faculty or staff member has committed to assisting with various processes of the MLC. The MLC Director is hired as a 50% position. In fall 2013 Drs. Lee Baines and Jim Sobota took over Directorship of the MLC on an interim basis. Dr. Baines was appointed Director in January 2014. Of the remaining MLC Advisors, Dr. Virginia Crank has the only paid position as she receives a half-time buyout to run the Writing Center. All other MLC advisors have agreed to this duty as part of service to their departments (Table 3).

In the Fall of 2011, this group decided it would be beneficial to meet approximately 3 times per semester. During these meetings, we discuss issues related to best practices in tutoring, assessment strategies, promotional ideas, and future ideas for the MLC.

Table 3 MLC advisory committee members.

Name	Department
Dr. Lee Baines	MLC Director, Biology
Dr. Virginia Crank	Writing Center Director, English
Dr. Jim Sobota	Mathematics
Dr. Pillai	Physics
Kate Friesen (2013-2014)	Chemistry
Eugenia Turov (2014-2015)	
Dr. Colin Belby (2013-2014)	Earth Science
Jeff Kueny (2014-2015)	
Suzanne Anglehart	Microbiology
Dr. Tony Docan-Morgan	Public Speaking Center
TBD	Accountancy

Faculty and Staff

Faculty and staff from the University can often be seen at the MLC throughout the course of a regular day. The MLC Advisors often assist in the tutoring center, providing a model of best practices for their tutors in addition to general supervision and evaluation of tutors.

Furthermore, faculty and staff from instructors utilized the MLC as a place to house office hours. In general, the faculty and staff reported an approximate increase in the number of students who would visit them at the MLC of 100% versus their personal office. Some have attributed this to a more casual, flexible learning environment and students not feeling like they are imposing on the instructor. The presence of faculty in the MLC aids the tutors in viewing more models of teaching practices.

Facilities

2013-2014 saw enormous changes to the MLC and its facilities. The investment of the University has allowed the MLC to serve our students better, and to increase the quality of service by providing a relaxed atmosphere where students stay longer to work with tutors, and to collaborate with each other. The whiteboards that are throughout the MLC are popular with students for collaborative work but also for memorizing content. Students often go to the MLC just to use the whiteboards.

Donations from the Biology department as well as purchases by the MLC have provided a range of models and other resources to supplement the work of the tutors in the MLC.

The digital signage at the entrance of the MLC displays information relevant to students. This includes a floor plan of the MLC, tutoring schedules and any special events.

A swipe card reader was installed on the Tutor Study Room and a key cabinet purchased. Both of these items help provide the tutors easy access to resources they need whilst maintaining security for valuable items.

Outreach

A Facebook page for the MLC was created in spring 2014 and will be used to enhance outreach to students. It can be found at <https://www.facebook.com/uwlmlc>.

During AY 2013-2014 close ties were forged with the Office of Multicultural Student Services (OMSS). This has allowed for addition promotion of the MLC to OMSS students. OMSS provides individualized tutoring for their students. The MLC has worked with OMSS to provide contact information for reliable and experienced tutors that their office can utilize.

Collaborations have been undertaken with the Language Resource Center (LRC).

Future Plans

There are plans to promote the MLC to incoming freshmen by placing materials in student welcome packs (in conjunction with the LRC), having an article in the summer newsletter as well as continuing in-class visits by tutors. The MLC webpage is currently undergoing a redesign, allowing students to access tutoring times and other information through a simplified single-page interface. The information included there will include tutoring from other departments not currently part of the MLC.

The rate at which tutors in the MLC are paid varies between different departments. It is hoped that an agreement can be made with the MLC committee and the departments to standardize this.

It is projected that fall semester 2014 will see the number of tutors employed in the MLC exceed the current total of approximately 100. It is estimated that 15 of these will be volunteers.

Supplementary instruction is being researched and considered as an option to enhance the impact of tutors on students and to contribute to student success.

MLC Advisory Committee meetings must be held at regular intervals throughout the Academic Year. Advisors will be encouraged to take an active and regular role in tutor training and hold office hours in the MLC.

The collaborative screens for laptops are used minimally by students. This could be improved by installing permanent computers to work with those screens, but still provide students opportunity to attach their laptops. It is believed that students would then use the

technology regularly and benefit from its presence more. An estimate of cost for this work was provided by ITS (\$4500).

Signage both directing students to the MLC and within the MLC is absent, beyond those made in-house. These are inadequate. It is hoped that new signage will be installed in the near future.

It is hoped that relationships with other units will continue and that new ones will be formed to help all of our students at UWL succeed.

**Annual Report on the Statistical Consulting Center
June 2013 to May 2014
Melissa Bingham, Director, June 2013-March 2014
David Reineke, Director, March 2014-Present**

The On-Campus Statistical Consulting Center (SCC) provides advice and assistance in various areas of statistics to members of the UW-L campus community. From June 2013 to May 2014, the SCC served 47 clients. This included 21 faculty/staff, 17 graduate students, and 9 undergraduate students. Meetings with graduate and undergraduate students were also sometimes attended by faculty advisors, who have not been included in the final client count. Over the past year, the SCC served a wide variety of departments and programs on campus, including Biology, Chemistry, Education Studies, English, Exercise and Sports Science, Health Education and Health Promotion, Library, Management, Mathematics, Medical Dosimetry, Microbiology, Psychology, Recreation Management, Sociology, Student Affairs Administration, and Therapeutic Recreation.

The SCC provides valuable experience for students majoring in Statistics, as all students are required to enroll in at least one credit of MTH 440: Statistical Consulting as part of the major. This year enrollment counts for MTH 440 were 1 during the summer term, 8 in the fall semester, and 11 in the spring semester. Students, under supervision of the SCC director, met with and worked on projects for the clients, giving them a true consulting experience. Some of the topics dealt with this year were experimental design, survey design, sample size determination, descriptive statistics and graphs, chi-square tests for independence, linear regression (multiple and simple), t-tests for means of independent samples, t-tests for paired data, one-way ANOVA, two-way ANOVA, and MANOVA. Additionally, helping the client with software such as R, SPSS, or Excel is often a part of the consulting experience.

Some specific projects that students worked on this year included:

- Analyzing results of a survey regarding events and programming in the residence halls to determine if there are gender differences in the programming attended or interested in.
- Determining if various forms of stretching have an impact on flexibility of the IT band in runners.
- Analyzing survey data to investigate burnout and job satisfaction for school psychologists.
- Analyzing and summarizing survey data on social media usage for middle school students, high school students, pre-service and in-service teachers.
- Determining if asymmetries present in wrestlers contribute to the number of injuries that they have.
- Summarizing the results of over 800 surveys completed by attendees of the Tomah Tractor Pull.
- Determining if students feel they are treated differently by professors based on whether they are in a traditional or nontraditional major for their gender.

Lastly, to gauge client satisfaction with the SCC, a short survey was sent out to all clients who used the SCC's services. Clients were asked to rate their satisfaction with the overall

services of the SCC and the timeframe in which their questions were answered (5=Satisfied, 4=Somewhat Satisfied, 3=Neutral, 2=Somewhat Dissatisfied, 1=Dissatisfied). Averages are given in Table 1 below. Clients were also asked if they would choose to use the SCC again in the future for statistical advice, with 100% of respondents indicating that they would use the services of the SCC again. Additional comments provided by survey respondents are also provided in Appendix A. As can be seen, feedback regarding the services of the SCC over the past academic year was very positive.

Question	Average Score
How satisfied were you in the overall services you received from the Statistical Consulting Center?	4.88
How satisfied were you in the timeframe that the Statistical Consulting Center answered your questions by?	4.96

Table 1: Average scores from the SCC satisfaction survey (n=25 respondents)

Appendix A: All Additional Comments from the SCC Satisfaction Survey

- I have worked with the center multiple times with two different directors. Every experience has been pleasant and my questions were answers in a timely manner.
- Your help was invaluable. We were in a crunch, and were getting some results from what we were running in SPSS. Dr. Bingham answered my query promptly, and in a way that I was better able to teach my students. Thanks!
- Melissa was quick and extremely helpful. She explained everything and gave me some tools to use so that I could do much of what I asked her to do by myself in the future. I would still use the center for advice that I analysis tools I am using are appropriate/adequate for my project. Great service for faculty!
- Dr. Bingham was able to meet with me in a timely manner to discuss my project. She also provided thoughtful feedback. It was a load off my mind to have her review my paper before submitting it.
- I needed help with a statistical procedure, Dr. Bingham was quick and responsive. She was able to run the test I needed and confirmed my values as well as add additional useful information!
- The consulting center was so helpful--I gave them a short timeframe and they responded immediately, helping me analyze my data exactly when I needed to. I am very grateful

for their flexibility and support. I have already recommended the Center to my fellow grad students who may need statistical analyses completed.

- Melissa Bingham was generous with her time, prompt with her replies, and more than willing to think about my challenges with R.
- SCC was able to help analyze my data effectively and very quickly! This helped to save time during my research, while providing helpful statistics. I would come back for more assistance if needed in the future!
- Overall, I am happy with the help I received from the Statistical Consulting Center.
- Very helpful! I have used this service twice now and it both times it exceeded my expectations. I could not be happier with the speed and thoroughness in which my questions were answered! As a grad student I found this service to be of immense help!
- I was really impressed by the quick response I received to my inquiry and the quick turnaround with my data request.
- Melissa was patient and very helpful.
- Excellent faculty and students. Flexible and knowledgeable consultants.
- Melissa Bingham was extraordinarily accommodating and helpful with finding a solution using R to help with my analysis. I deeply value this service.
- Dr. Rieneke has been very responsive to my questions.
- Very helpful group, got back to me quickly, gave me great answers and were very open to helping in the future. I liked that math students were able to attend and use the consulting session as a learning experience. Overall extremely satisfied.
- The students didn't have much input to provide, but Dr. Reineke was helpful. I think he asked the right questions to get a good sense of my project and what specific information I would need to gather in order to perform the statistical analysis.
- The consulting was great, timely, very informational and I'm certainly not done utilizing the services.

Early (August 2013) Starts for New Faculty for Grant Proposal Writing

Department	Grant Agency	Grant Amount		Requested	Match		Reviewer's	Future	Comment
Faculty Member		Requested	Funded	Indirect	Requested	Source	Comments	Plans	
Biology									
Todd Osmundson	UWL Faculty Research Grant	\$18,202	\$11,000						
	NSF						Yes	Yes	Preproposal, To Be Resubmitted
Chemistry									
Nicholas McGrath	UWL Faculty Research Grant	\$13,500	\$13,500						
	Cottrell College Science Award	\$55,000	\$0		\$20,000	SAH	Yes	Yes	To Be Resubmitted
Computer Science									
Andrew Berns	UWL Faculty Research Grant	\$5,000	\$5,000						
	NSF	\$121,401		\$31,474					Pending
Brad Shutters	UWL Faculty Research Grant	\$7,160	\$7,160						
	External Grant Not Submitted								Advised Not To
Exercise and Sport Science									
Cordial Gillette	UWL Faculty Research Grant	\$6,500	\$0						
	National Athletic Trainers' Association								Preproposal Pending
Geography and Earth Science									
Daniel Sambu	UWL Faculty Research Grant	\$17,275	\$12,175						
	External Grant Not Submitted								Plan to Submit Fall 2014
Health Education and Health Promotion									
Lori Reichel	UWL Faculty Research Grant	\$7,634	\$7,634						
	External Grant Not Submitted								Plan to Submit Fall 2014
Health Professions									
Patrick Grabowski	UWL Faculty Research Grant	\$8,020	\$7,420						
	NIH	\$331,586	\$0	\$58,959			Yes		Resubmitted Spring 2014
Mathematics									
Douglas Baumann	UWL Faculty Research Grant	\$5,000	\$5,000						
	UWL Curricular Redesign Grant	\$15,000	\$15,000						
	UWL Curricular Redesign Grant	\$15,000	\$12,000						Partially Funded
	UWL Curricular Redesign Grant	\$15,000	\$0				Yes		To Be Resubmitted
	UWS Incentive Grant Program	\$126,248	\$126,248						
Matt Chedester	UWL Faculty Research Grant	\$7,943	\$7,943						
	External Grant Prepared but Not Submitted								NSF Program Not Funded for 2014
	Institute of Education Sciences								Plan to Submit Summer 2014
Song Chen	UWL Faculty Research Grant	\$5,000	\$5,000						
	NSF RUI	\$103,732							Pending
Tushar Das	UWL Faculty Research Grant	\$5,400	\$5,400						
	External Grant Not Submitted								Advised Not To
Joshua Hertel	UWL Faculty Research Grant	\$7,763	\$7,763						
	External Grant Prepared but Not Submitted								NSF Program Not Funded for 2014
	Institute of Education Sciences								Plan to Submit Summer 2014
Edward Kim	UWL Faculty Research Grant	\$7,880	\$7,880						
	NSA Young Investigator Award	\$19,813		\$2,584					Pending
Chad Vidden	UWL Faculty Research Grant	\$5,000	\$5,000						
	NSF RUI	\$103,776		\$26,983					Pending
Total Intramural		\$172,277	\$134,875	\$0	\$0				
Total Extramural		\$861,556	\$126,248	\$120,000	\$20,000				
Totals All		\$1,033,833	\$261,123	\$120,000	\$20,000				