

Academic Program Assessment Plan for Human Biology

The questions below will form the outline for your programmatic assessment for this academic year. All assessment plans should be implemented during the spring semester with results reported in May 2014.

1. Which outcome will you assess?
 10. Know and execute state-of-the-art laboratory techniques
 11. Analyze and interpret scientific information

2. Which technique will you use to assess this outcome? Examples of techniques are tests, embedded assessment, competence interviews, and portfolios. More information on each of these methods, including pros and cons can be found here:
http://assessment.uconn.edu/docs/Summary_of_Direct_Assessment_Techniques.pdf

Embedded assessment

3. Which course or group of students will you assess on the outcome chosen above and when? Please keep in mind that assessment should be a snapshot of what you're doing. You do not need to assess every single student in your major, but rather a sample group that is large enough to get reliable data.

Medical Nutrition Therapy II, NUT SCI 486, Sara Schmitz
Cell Biology Lab, BIOL 308, Warren Johnson
Others to come

4. Who will do the assessment and coordinate the data collection and reporting?

Warren Johnson, Chair of Human Biology

'APR 21 2015'
Office of the
Dean of Liberal Arts and Sciences

Alumni Survey: 2009, 2010, 2011, 2012 & 2013

	Survey year	Graduation Year	Human Biology	UWGB Overall
Graduates:	2009	2005-2006	63	1087
	2010	2006-2007	92	1148
	2011	2007-2008	94	1162
	2012	2008-2009	98	1133
	2013	2009-2010	100	1295
Response Rate*	2009-2013		81/447 (18%)	882/5825 (15%)

* Note: % response misses double-majors who chose to report on their other major.

	Unit of Analysis	2009-2013					
		Preparation			Importance		
		n	Excellent or Good	Mean	n	Very important or Important	Mean
Critical analysis skills.	HUMBIO	70	67%	3.9	67	94%	4.6
	UWGB	702	67%	3.8	684	91%	4.5
Problem-solving skills.	HUMBIO	69	74%	3.9	66	94%	4.7
	UWGB	704	69%	3.8	679	94%	4.7
Understanding biology and the physical sciences.	HUMBIO	67	88%	4.4	66	91%	4.6
	UWGB	672	46%	3.4	671	30%	2.6
Understanding the impact of science and technology.	HUMBIO	66	73%	4.0	66	82%	4.4
	UWGB	670	47%	3.4	675	43%	3.2
Understanding social, political, geographic, and economic structures.	HUMBIO	68	54%	3.6	66	59%	3.5
	UWGB	689	60%	3.7	676	57%	3.5
Understanding the impact of social institutions and values.	HUMBIO	67	60%	3.7	64	64%	3.7
	UWGB	692	68%	3.9	676	63%	3.7
Understanding the significance of major events in Western civilization.	HUMBIO	65	48%	3.5	65	31%	2.7
	UWGB	682	53%	3.5	673	28%	2.6
Understanding a range of literature.	HUMBIO	65	49%	3.4	65	32%	2.7
	UWGB	678	50%	3.5	669	32%	2.7
Understanding the role of the humanities in identifying and clarifying individual and social values.	HUMBIO	67	49%	3.5	65	32%	2.7
	UWGB	676	57%	3.6	663	39%	3.0
Understanding at least one Fine Art, including its nature and function(s).	HUMBIO	67	60%	3.6	65	18%	2.2
	UWGB	682	60%	3.7	667	25%	2.5
Understanding contemporary global issues.	HUMBIO	65	43%	3.4	66	45%	3.3
	UWGB	680	54%	3.6	665	52%	3.4
Understanding the causes and effects of stereotyping and racism.	HUMBIO	66	58%	3.7	66	59%	3.6
	UWGB	682	63%	3.8	668	56%	3.5
Written communication skills.	HUMBIO	68	82%	4.1	67	94%	4.7
	UWGB	694	80%	4.1	672	92%	4.7

Table 1. Preparation & Importance
 ▪ Preparation by UWGB (5-pt. scale; 5 = excellent)
 ▪ Importance to current job or graduate program (5-pt. scale; 5 = very important)

	Unit of Analysis	2009-2013					
		Preparation			Importance		
		n	Excellent or Good	Mean	n	Very important or Important	Mean
Public speaking and presentation skills.	HUMBIO	67	66%	3.8	67	87%	4.4
	UWGB	690	60%	3.7	676	85%	4.4
Reading skills.	HUMBIO	66	82%	4.2	66	92%	4.6
	UWGB	689	73%	4.0	670	91%	4.6
Listening skills.	HUMBIO	66	88%	4.2	66	97%	4.8
	UWGB	689	74%	4.0	672	96%	4.8
Leadership and management skills.	HUMBIO	66	67%	3.8	66	93%	4.6
	UWGB	691	65%	3.8	668	94%	4.7

Table 2. Educational experiences
 (5-pt. scale; 5 = strongly agree)

	Unit of Analysis	N	Strongly Agree or Agree	Mean
My educational experiences at UW-Green Bay helped me to learn or reinforced my belief that learning is a lifelong process.	HUMBIO	80	94%	4.5
	UWGB	877	93%	4.4
While at UW-Green Bay, I had frequent interactions with people from different countries or cultural backgrounds than my own.	HUMBIO	81	62%	3.6
	UWGB	870	51%	3.4
Students at UW-Green Bay are encouraged to become involved in community affairs.	HUMBIO	81	63%	3.7
	UWGB	866	59%	3.6
My experiences and course work at UW-Green Bay encouraged me to think creatively and innovatively.	HUMBIO	81	86%	4.0
	UWGB	877	87%	4.1
The interdisciplinary, problem-focused education provided by UW-Green Bay gives its graduates an advantage when they are seeking employment or applying to graduate school.	HUMBIO	79	86%	4.2
	UWGB	870	78%	4.0
UW-Green Bay provides a strong, interdisciplinary, problem-focused education.	HUMBIO	81	83%	4.1
	UWGB	877	83%	4.1
Students at UW-Green Bay have many opportunities in their classes to apply their learning to real situations.	HUMBIO	79	66%	3.7
	UWGB	872	73%	3.9
I would recommend UW-Green Bay to co-worker, friend, or family member.	HUMBIO	81	93%	4.4
	UWGB	879	90%	4.4
The General Education requirements at UWGB were a valuable component of my education.	HUMBIO	75	63%	3.6
	UWGB	840	58%	3.5
UWGB cares about its graduates.	HUMBIO	75	72%	3.9
	UWGB	846	61%	3.7
I feel connected to UWGB.	HUMBIO	80	55%	3.5
	UWGB	866	45%	3.3

	Unit of Analysis	n	UW-Green Bay		Another college		No bachelor's degree anywhere
			Same major	Different major	Same major	Different major	
2009–2013 percent	HUMBIO	81	68%	25%	4%	2%	1%
	UWGB	876	64%	24%	7%	4%	1%

	Unit of Analysis	2009–2013			
		n	A or B	C or D	mean
Quality of teaching.	HUMBIO	81	98%	2%	3.7
	UWGB	880	95%	5%	3.5
Knowledge and expertise of the faculty.	HUMBIO	81	100%	0	3.7
	UWGB	878	98%	2%	3.7
Faculty-student relationships (e.g., helpfulness, sensitivity, acceptance of different views).	HUMBIO	81	96%	4%	3.9
	UWGB	877	91%	9%	3.5
Importance and relevance of courses to professional and academic goals.	HUMBIO	81	91%	9%	3.7
	UWGB	872	89%	11%	3.4
Advising by faculty (e.g., accuracy of information).	HUMBIO	79	90%	8%	3.5
	UWGB	861	87%	12%	3.4
Availability of faculty (e.g., during office hours).	HUMBIO	81	96%	4%	3.3
	UWGB	859	93%	7%	3.6
Overall grade for the major (not a sum of the above).	HUMBIO	81	96%	4%	3.7
	UWGB	867	94%	6%	3.5

	Unit of Analysis	n	Bachelor's	Master's	Specialist	Professional	Doctoral
2009-2013 percent	HUMBIO	81	17%	40%	0	26%	16%
	UWGB	878	36%	46%	1%	5%	12%

	Unit of Analysis	n	Already graduated	Currently enrolled	Accepted, not enrolled	Rejected	Have not applied
2009-2013 percent	HUMBIO	68	29%	31%	2%	7%	31%
	UWGB	592	22%	23%	4%	3%	48%

Table 7. Current employment status

	HUM BIO (n =80)	UWGB (n = 879)
Employed full-time (33 or more hours/week)	66%	78%
Employed part-time	10%	12%
Unemployed, seeking work	7%	4%
Unemployed, not seeking work	4%	2%
Student, not seeking work	13%	3%

Table 8. Satisfaction with current job (5-pt. scale; 5 = very satisfied)

	Unit of Analysis	n	Very satisfied or satisfied	mean
2009-2013 percentage	HUMBIO	60	78%	4.2
	UWGB	793	72%	3.9

Table 9. Minimum educational requirements for current job

	HUM BIO (n = 62)	UWGB (n = 788)
High school or less	11%	19%
Certificate	3%	3%
Associate's degree	11%	14%
Bachelor's degree	55%	57%
Graduate degree	19%	8%

Table 10. Extent to which job relates to major

	HUM BIO (n = 62)	UWGB (n = 789)
Very related	60%	51%
Somewhat related	29%	30%
Not at all related	11%	20%

Table 11. Current income

	HUM BIO (n = 55)	UWGB (n = 766)
Under \$20,000	7%	13%
\$20,000 to \$25,999	9%	11%
\$26,000 to \$29,999	4%	8%
\$30,000 to \$35,999	20%	22%
\$36,000 to \$39,999	6%	13%
\$40,000 to \$49,999	18%	15%
\$50,000 or more	36%	18%

Employers, Locations, and Job Titles

Aurora Medical Center	Two Rivers	Wisconsin	Registered Dietitian, Certified Dietitian
Aurora Health Care	Pulaski	Wisconsin	Clinical Medical Assistant
Aurora Health Care	Fond du Lac	Wisconsin	Physical Therapist
Children's Hospital of Wisconsin and Froedtert Hospital	Milwaukee	Wisconsin	Nurse Intern and Patient Care Technician
Ripon Medical Center	Ripon	Wisconsin	Exercise Physiologist: Coordinator of Cardiac Services
St. Michael's Hospital	Stevens Point	Wisconsin	Clinical Dietitian
McFarland Clinic	Marshalltown	Iowa	Physician Assistant
		Wisconsin	
Holy Family Memorial / Rehab Plus	Manitowoc	Wisconsin	Physical Therapist
Zablocki VA Medical Center	Milwaukee	Wisconsin	Staff Dietitian
Lakeland College	Sheboygan	Wisconsin	Asst Athletic Trainer
		Wisconsin	
St. Michael's Hospital & Homme Home for the Aging	Stevens Point & Wittenburg	Wisconsin	Clinical Dietitian & Dietitian
		Wisconsin	
U of MN, Veterinary Diagnostic Lab	St Paul	Minnesota	Assistant Scientist
		Wisconsin	
		Wisconsin	
		Wisconsin	
Sheboygan Orthopaedic Associates	Sheboygan	Wisconsin	Physical Therapist
A chiropractic clinic - multiple locations, currently expanding	Milwaukee	Wisconsin	Intern (Until June 18th), after June 18th Associate Doctor
		Wisconsin	
Aurora BayCare	Green Bay	Wisconsin	Registered Nurse
		Wisconsin	
Waddell & Reed	Indianapolis	Indiana	Running my own financial planning & wealth management practice
		Wisconsin	
ProStep Rehabilitation	Manitowoc, WI	Wisconsin	Physical Therapist
		Wisconsin	
Select Specialty Hospital	Madison	Wisconsin	Director of Food & Nutrition
		Wisconsin	
Christus Spohn -- Shoreline Hospital	Corpus Christi	Texas	Clinical Dietitian
		Wisconsin	
Aurora Baycare Medical Center	Green Bay	Wisconsin	Food and Nutrition Services
Schneider National	Green Bay	Wisconsin	Global Rating and Resolution Specialist
Hired as a temp with Kelly Scientific for Sigma Aldrich	Sheboygan Falls	Wisconsin	Packaging Technician
Medical College of Wisconsin	Milwaukee	Wisconsin	Research Technologist
AURORA PHARMACY	DE PERE	Wisconsin	PHARMACY TECHNICIAN
Community Health Network	Berlin	Wisconsin	Registered Dietitian

PPD	Middleton	Wisconsin	Associate Scientist
		Wisconsin	
Daly & DeRoma Group	Plymouth	Minnesota	Sales Rep
Golden Living, Village Gardens Nursing Home	Green Bay	Wisconsin	Registered Dietitian
Bellin Health	Green Bay	Wisconsin	Patient & Resource Transport Aid and Valet Driver
Washington University School of Medicine	St. Louis	Missouri	Research Associate
North County Health Services	San Marcos	California	Registered Dietitian
Banner Health	Sun City	Arizona	Physical Therapist
		Wisconsin	
Maplebrook Chiropractic	Naperville	Illinois	Doctor of Chiropractic
US Navy	Bethesda	Maryland	Naval officer, Medical Student, Active duty
University of Wisconsin Department of Surgery	Madison	Wisconsin	Student Office Support
		Wisconsin	
Wheaton Franciscan Healthcare		Wisconsin	Clinical Dietitian
Columbus Nursing & Rehabilitation Center	Columbus	Wisconsin	Director of Dietary Services
Dr. Marty Lindahl	Knoxville	Tennessee	Dental Hygienist
		Wisconsin	
Adams State University	Alamosa	Colorado	Athletic Trainer
Mayo		Wisconsin	
Mayo Clinic	Rochester	Minnesota	RN
		Wisconsin	
UW-Green Bay	Green Bay	Wisconsin	Academic Department Associate
Wee Care WIC	Milwaukee	Wisconsin	Nutritionist
Walgreens	Hurricane	West Virginia	Pre-Grad Pharmacy Intern
Cherney Microbiology Services LTD	Green Bay	Wisconsin	Projects Coordinator II
Oconto County Sheriff's Department	Oconto	Wisconsin	Correctional Officer
St. Joseph's Hospital	West Bend	Wisconsin	FNS Lead
		Wisconsin	
Brown County Human Services	Green Bay	Wisconsin	Receptionist
Affinity Health, St. Elizabeth Hospital	Appleton	Wisconsin	Dietician
Food Safety Net Services	Green Bay	Wisconsin	Laboratory Technician
Hayward Area Memorial Hospital	Hayward	Wisconsin	Registered Nurse
		Wisconsin	
Gopher Resource Corporation	Eagan	Minnesota	Laboratory Technician
Self-Employed	Indio	California	Wildlife Biologist
St. Vincent Hospital	Green Bay	Wisconsin	Physical Therapist
		Wisconsin	
Commander, Navy Installations Command- MWR Navy Fitness	Washington, DC	Maryland	Performance Enhancement Dietitian
Hopkins Public Schools	Hopkins	Minnesota	Nutrition & Wellness Specialist
Back In Action Rehabilitation	New Holstein	Wisconsin	Physical Therapist Assistant
		Wisconsin	
		Wisconsin	
Golden Living		Wisconsin	RD Specialist

Academic Program Review and Student Learning Outcomes Assessment

Name of Program: Human Biology

Name of Program Chair: James Marker

Date of Last Program Review: May 2006

Date the current Self-Study Report approved by Program Executive Committee: 4/20/2015

A. Mission Statement and Program Description

Human Biology is an interdisciplinary program that focuses on the study of the biological, physiological, nutritional, evolutionary and behavioral aspects of the human organism. Human Biology is committed to studying and teaching human structure and function, patterns of reproduction and development, genetics, nutrition, and behavior as it exists presently and as it relates to human evolution and diversity. Human Biology provides a fully accredited program in human nutrition/dietetics integrated with these interdisciplinary principles:

To this end, Human Biology:

- Includes within the program and among teaching faculty representatives from several disciplines.
- Offers a major and minor that includes interdisciplinary courses and courses from the natural science disciplines.
- Includes within its major, an orientation towards a liberal education degree as well as areas of emphases that have applicability to careers and/or post-baccalaureate education.
- Offers training in the skills of laboratory investigation and opportunities for practical experiences in areas related to human biology.
- Offers a range of courses that provide a portion of the liberal arts education of a student's academic work.
- Maintains a commitment to the Adult Degree Program, to Outreach, and continuing education geared especially to regional needs.
- Supports the graduate programs by its faculty serving on graduate committees, acting as thesis advisors, and teaching courses for graduate credit.
- Encourages scholarly activity among its faculty, especially applied research, and also encourages basic research in various areas related to human biology.

Relation to UW-Green Bay mission - The Human Biology program relates strongly and in multiple ways to the mission of the University of Wisconsin-Green Bay as it provides an undergraduate interdisciplinary major that includes problem solving, critical thinking and the development of practical career skills. Additionally, the Human Biology unit contributes to the UW-Green Bay mission objectives of providing excellent and innovative teaching in a curriculum that supports pre-professional training, interacting with local organizations, and inter-institutional collaboration.

Curricular Changes –

In 2008, a new and significant requirement was added to the Human Biology major – all students would be required to take Anatomy and Physiology. This important change was instituted to assure that all majors would have an understanding of the fundamentals of human anatomy and physiology.

Changes to the declaring a Human Biology major – In 2009, in an effort to deal with the challenges of insufficient resources resulting in insufficient number of faculty available to provide enough seats and/or courses for the dramatic increase in Human Biology majors, the Human Biology faculty implemented an academic requirement for declaring a major. This academic requirement was coupled with a concomitant pre-requisite for many upper level courses of being a “declared” Human Biology major. The goal of implementing these policies was threefold: (1) to reduce the extremely high demand for courses (and the subsequent frustration of both students, faculty and administrators) by reducing the pool of students desiring the courses. And (2) to enhance availability of courses to deserving students, e.g., provide seats in courses that had in the past been taken by students repeating the course, and (3) provide a mechanism for screening out students that arguably would not have been successful in this particular academic pursuit.

New Courses:

Dr. Baker developed and taught *Cancer Biology* and *Cancer Biology Lab*.

Dr. Hanke developed an on-line version of *Introduction to Human Biology*, Sept 2013.

Dr. Johnson redesigned (based off of his sabbatical experience) *Biotechnology and Human Values*

Dr. Johnson developed an on-line version of *Biotechnology and Human Values*, August 2013. This course is currently under review for QM certification

Dr. Marker developed an on-line version of *Introduction to Human Biology*, Sept 2012. He was also selected to revise this course for certification as a Quality Matters™ course January 2014.

Dr. Meinhardt developed a course on *Art and Science*

Dr. Merkel developed an on-line version of *Human Disease and Society*, Jan 2013.

Dr. Merkel developed an on-line version of *Introduction to Human Biology*, Jan 2013.

Dr. Nelson and Dr. Marker developed an independent study “course” in which (~ 10) students do *cadaver dissection*.

Dr. Nelson developed an on-line version of *Introduction to Human Biology*, Sept 2014.

Dr. Pott developed an on-line version of *Principles of Biology: Cellular and Molecular Processes* lecture, June 2013

Dr. Pott developed and taught *Animal Behavior*.

Dr. Zhu developed “*Ethnic Influences on Nutrition*” as a six-week, internet-based course in 2009. This course earned Quality Matters™ certification in 2013.

Ms. Sara Schmitz developed a course on *Childhood Obesity* (Nut Sci 260)

Several science faculty, including Warren Johnson, were involved in developing and teaching a course in *Lab Safety*.

Because of changes proposed by the Physical Education task force (of which J. Marker was a member), the Dean implemented changes to the “ownership” of many of the courses formerly under the umbrella of “physical education”. Human Biology had added to its program the following courses: *First Aid, Prevention and Treatment of Athletic Injuries, and Scientific Conditioning of the Athlete*.

To meet the demand for *Anatomy and Physiology*, c.a. 2011, we began to offer 3 sections of this course per academic year, and once taught 4 sections.

New Affiliations:

A new affiliation agreement was made between the Human Biology program at UW-Green Bay and the Entry-level Masters of Athletic Training program at St. Scholastica University (MN). Dr. Marker and Nelson worked out the agreement with Dr. Hal Strough. The agreement grants automatic acceptance to students from UW-Green Bay that meet the minimal requirements of St. Scholastica's Athletic Training program.

As of September 2015 and due to the Marshfield Cytotechnology program closing their doors, the affiliation agreement between UW-Green Bay and Marshfield Clinic is no longer in effect.

Ms. Sara Schmitz established a partnership with Bellin College of Nursing that involves utilizing their state of the art Human Patient Simulation Lab to provide a more "real-world" and hand-on component to learning nutrition therapy and counseling in the Medical Nutrition Therapy I and II courses.

New Programs:

Dr. Pearson and Ms. Schmitz developed, at the request of the provost, a proposal for a Masters in Nutritional Science. A revised proposal was submitted to the current administration who are, again, looking for new opportunities for growth and/or specialization at UW-Green Bay. Note – it has been proposed by the Commission on Dietetic Registration (CDR) that by 2024 a master's degree in Nutritional Science is going to be required by as a condition of acceptance into a Dietetics Internship program. Dr. Marker and Dr. Nelson developed a proposal for an Entry-level Masters of Athletic Training program. This proposal was well received by the current administration which has moved forward in the process of implementing such a program.

Curricular Strengths

The Human Biology curriculum includes 5 emphases, Health Science, Exercise Science, Nutritional Science, General and Cytotechnology. The core courses of each emphasis, taught by competent and expert faculty, are high caliber courses that have proven, over time, to facilitate student acceptance into top tier biomedical graduate programs. Our curriculum supports students being accepted into medical, chiropractic, physical therapy, pharmacy, physician assistant, nursing, athletic training, and biomedical graduate programs. The curriculum for each emphasis clearly supports student success in that respective discipline!

As mentioned, each emphasis has a proven track record (see table of grads by emphasis below), but special mention is in order for our accredited undergraduate dietetics program. This popular and successful program is accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND). This accreditation requires that we meet many stringent requirements, among which are having competent teachers and leaders in the field of nutritional sciences. This program has been tremendously successful as evidenced by an extraordinary high percentage of our students being accepted into Dietetic Internship programs and/or meaningful employment.

Speaking of Dietetic Internship programs, the Dietetics Internship Program that is housed in Human Biology is an award winning program that serves our program and students in several ways. Having the Dietetic Internship program provides general recognition to the university and the Human Biology program. It is also a reminder to our students of the significance of these programs in becoming a registered dietitian (RD). Having this program at UW-Green Bay motivates our students to prepare well in order to qualify for the dietetics program at UW-Green Bay.

The Human Biology faculty provide a plethora of individual learning experiences for students. These learning experiences include internships, independent studies, independent research studies, lab teaching assistantships, and lecture teaching assistantships. These learning experiences enhance students' acceptance rate into grad programs, many of which require a research experience for acceptance into their program.

The Human Biology curriculum contributes significantly to the General Education program of UW-Green Bay. Clearly, the majority of students meet their general education science requirement via taking courses in Human Biology. This includes courses that meet the basic science requirement, e.g., Introduction to Human Biology, and courses that meet the “issues in science” requirement, e.g., Human Disease and Society.

Curricular Improvements/Needs – The most notable need within the curriculum is being able to offer additional sections of current courses and add important additional courses. Doing so will meet the increased demand for our courses and also add courses with specialization in important areas of human biology. For example, while we offer the important core Human Physiology course, students would be even better prepared if they had an, in addition to Human Physiology, Endocrinology. To address the need of providing more sections of current courses and adding new courses, we must have additional faculty.

B. Student Learning Outcomes Assessment –

Human Biology Program learning outcomes: NOTE that these learning outcomes were revised since the last review.

1. Demonstrate knowledge of the anatomy and physiology of human organs and organ systems
2. Demonstrate a basic knowledge of molecular / biochemical processes
3. Demonstrate a basic knowledge of cell structure, organelles and cellular processes
4. Demonstrate an understanding of the impact of evolutionary forces on the human organism
5. Demonstrate an understanding of the ecological context of humans
6. Demonstrate an understanding of the impact of nutrients on human physiology
7. Demonstrate an understanding of the interactions of exercise and human physiology
8. Demonstrate an understanding of scientific processes, including inductive and deductive reasoning, formulation of hypotheses and experimental design
9. Demonstrate an understanding of research methodologies and the relative value of information obtained from experiments involving observation, correlation and examination of cause/effect relationships
10. Know and execute state-of-the-art laboratory techniques
11. Analyze and interpret scientific information
12. Demonstrate an appreciation for the ethical and social dimensions of science, as well as weaknesses / limitations and assumptions of science as practiced in the US
13. Demonstrate the awareness, understanding and skills necessary to work in a diverse world

Assessment: Given the difficulties of the former assessment used, i.e., embedded assessment, we moved to using a modification of the past exit interview assessment format. Vice chair, James Marker, set up a Qualtrics survey that essentially duplicated the former exit interview document. This survey was sent to graduates shortly after (or before) their date of graduation. This survey was not well received as evidenced by the poor return and/or response rate. The poor response was understandable as the survey was long and redundant because it involved using the same questions asked in 2 different ways – using a Likert scale and an open ended format. To enhance survey participation, the assessment-survey was shortened, but student response rate continued to be low.

Recently, with the suggestion of Angie Bauer, then in charge of campus learning assessment, we instituted a “focused” assessment in which we focused on only two of our learning outcomes. These outcomes were assessed in 2 ways; (1) embedded assessment specific to certain courses, and (2) use of a survey questionnaire that included a few questions pertinent to the outcomes.

Another form of assessment that we have undertaken is to track our graduate’s acceptance into grad school and/or significant career milestones. We log this information on an ongoing basis as we find out from students. See samples below in table.

We have not done an extensive or statistical analysis of the assessment data. However, it is clear from what we have “assessed” that students view the faculty as extremely competent and able instructors AND caring and involved mentors. This same message comes through in the exit surveys done by Human Biology as well as in the “senior survey” and the “alumni survey” that are included with this report. Students acknowledge the fine education they have received from Human Biology faculty both directly and indirectly. Students frequently send thank you notes to faculty indicating that they feel adequately or better prepared than their fellow graduate students. It is fair to say that, at one time or another, this has been the experience with every one of our faculty!

In a recent discussion about student assessment, it became clear that we need to reduce the number of learning outcomes to only 4 or 5. Although we plan to enhance the assessment of our program, current data indicate that the assessed outcomes are being met.

The Nutritional Science emphasis conducts an annual assessment as required by ACEND. This involves assessing learning outcomes and getting perceptions of the program from graduating students.

- For the past three years, nutritional sciences students at UWGB have matched to dietetic internship programs at a rate that far exceeds the national average. While only 50% of students match to internships nationally, UWGB has matched 75%, 70% and 86% of graduating seniors over the last three years. (Anecdotally, I believe this is the highest internship match rate of all dietetic programs in the state... and I think we will have close to a 100% match this year – unheard of!). Additionally, for the last two years, UWGB has had students accepted to the extremely competitive tuition-free programs like those through the VA Hospital system.
- A UWGB senior nutrition student has been awarded the state-wide Outstanding Dietetics Student award from the Wisconsin Academy of Nutrition and Dietetics in 2011, 2012, 2013 and 2015.

C. Program Accomplishments and Student Successes

Program Accomplishments:

Faculty:

Dr. Baker was an effective teacher, advisor and scholar. She taught Biology I, Human Genetics and Cancer Biology. All of these courses were well received by students, and Dr. Baker was able to design her labs to effectively integrate teaching and research. She was a valued and responsible colleague who made contributed to the unit and the university in many ways. She served on the faculty senate and was appointed as a Faculty Teaching resource at UW-Green Bay. Dr. Baker’s line of inquiry involved the scholarship of teaching and learning (SoTL). She generated two reviews in this area of scholarship, and she gave several presentations on her SoTL work, including a presentation at the 8th Annual International Society for the Scholarship of Teaching and Learning (ISSOTL) Conference.

Dr. Hanke teaches 5 different UWGB courses, Human Physiology, Human Physiology Lab, Comparative Physiology, Neurobiology and Introduction to Human Biology. These courses account for approximately 400 UWGB students each year. He also assists in the music program by providing jazz and classical double bass lessons. For the past two years he has developed and taught a graduate Pharmacology course for the Nurse Practitioner Master’s degree program at Bellin College of Nursing.

Dr. Hanke has developed a new research program designed to match the skills of UWGB undergraduates. This research focuses on cardiovascular, neurological, and respiratory effects of music therapy. The research change has substantially increased the opportunities for Human Biology students and he now typically trains 8-12 research students a year. He has also initiated a collaboration with Dr. Marker examining the effects of music on perception of exercise intensity.

Dr. Hanke has been heavily involved in the program development of the new Medical College of Wisconsin regional campus in Green Bay. He was involved in the initial pilot study meetings for this program 4 years ago and participated in tours and discussions of program development. He met with accreditors during the program review, participated in the search and screen for the new campus Dean, developed plans for faculty participation and teaching coverage and developed budget/ teaching assignment proposals. He currently serves on the Medical College Community Advisory Board and the M2 curriculum development committee. With the installment of Chancellor Miller, he additionally served on the newly formed Growth and Innovation Committee and the Markets and Opportunities subcommittee. As a continuing development of this work, he is currently serving on a committee examining the potential formation of a new College of Health Sciences at UWGB.

Marker, J.C., Hanke, C., Nelson, A., Amanda Cheney, Cassie Welch, Evan Wenig, "A Comparison of Three Methods of Determining Lung Function New vs. Old Technology", Poster presentation at the 11th UW-Green Bay Academic Excellence Symposium, 2012.

Hanke, C., Marker, J.C., Nick Burgraff, Brenda Peebles, "The Effect of a Music on Exercise", Poster presentation at the 13th UW-Green Bay Academic Excellence Symposium, April 2014.

Dr. Hencheck, a recent and welcome addition to the Human Biology unit, plays a critical supporting role to our students. Being a physics instructor, his effectiveness in teaching physics is critical to the success of our students moving on to graduate programs in biomedical science. His desire and attentiveness to helping students is noteworthy. He has several publication, and he has collaborated with Dr. Craig Hanke on a project looking at calcium transduction

Hencheck, Mike, "Breakup of 6He incident on 209Bi near the Coulomb Barrier." *Phys. Rev. C* 75, 031302 (2007).

Hencheck, Mike, "Visual Photometric Observations of Long Period Variable Stars." *Proceedings of the 18th Annual Wisconsin Space Grant Consortium* (March, 2009)

Dr. Johnson continues to be an effective teacher, advisor and administrator. Of particular significance, he teaches Biochemistry lecture and lab, keys courses for our students, and particularly important in preparing them for careers in "medicine". He has been an effective chairperson for the department, and, in that role, provided hundreds of hours of thorough and detailed advising for students. Whether it was advising pertaining to their academic plan or their career (or general advice), students knew that had a competent and caring advocate in their corner. It should be noted that over the past several years, Dr. Johnson developed (redesigned) an impressive course on Biotechnology and Ethics. The content and approach to this relevant topic are a clear indication of the significant preparation and thought Dr. Johnson invested in the course.

Dr. Marker continues to be an effective teacher, advisor and scholar. Of particular significance, he teaches Exercise lecture/lab and Sports Physiology, key courses for students pursuing for careers in physical therapy and the like, e.g., athletic training. He has provided ample opportunities for students to be involved in research, and he often does so via collaboration with colleagues. Working with Dr. Pearson, Dr. Nelson and Dr. Hanke, he has provided numerous student-involved research projects in the areas of Vitamin D and exercise, pulmonary function and the effects of music on exercise respectively. This research has been presented at the annual UW-Green Bay undergraduate research symposium. In addition to providing research opportunities, Dr. Marker continues to provide student internship opportunities, cadaver dissection opportunities, and TA opportunities. Over this review period, he served as the vice-chair for Human Biology and the chair of the IRB two times.

Marker, J.C., Heather Meinholz, Kaycee George, Sara Wild, Jeremy Stephany, Nick Roland, “The Effects of Exercise Induced Dehydration on Body Composition and Hematocrit” -, Poster presentation at the UW-Green Bay Academic Excellence Symposium, April 6, 2007

Marker, J.C., Aubrey Lux, Lotte Rasmussen, “The Effects of Walking with Handheld Weights on Energy Expenditure” - Poster presentation at the UW-Green Bay Academic Excellence Symposium, April 6, 2007.

Brittany Remiker, Laura Braaksma, Cassie Heizler , “The Effects of Ankle Weights on Energy Expenditure While Walking” - Poster presentation at the UW-Green Bay Academic Excellence Symposium, April 6, 2008.

Marker, J.C., Heather Meinholz, Kaycee George, Sara Wild, Jeremy Stephany, Nick Roland “The Effects of Exercise Induced Dehydration on Body Composition and Hematocrit”, Poster presentation at 8th UW-Green Bay Academic Excellence Symposium, April 8, 2009.

Marker, J.C., Lindsey Provenzano, Zach Davoodi, Stephanie Flood, Rebecca Johnson, Travis Schara, Brittany Remiker, Laura Braaksma, Cassie Heizler “The effect of over-hydration on Body Composition as Measured via the BodPod”, Poster presentation at 9th UW-Green Bay Academic Excellence Symposium, March 30, 2010.

Marker, J.C., Amanda Stinson, Rachel Newman, Dustin Dietrich, “Energy Expenditure Using Arms vs. Legs at the Same Workload”, Poster presentation at the UW-Green Bay Academic Excellence Symposium, March 30, 2010.

Pearson, D., Marker, J.C., Colby Vorland, Debra Pearson, James Marker, Erica Kiela, Lindsey Provenzano, Laura Hayward, Zacharia Davoodi, Renee Reindl, Jolene Sell, “The effect of vitamin D on muscle power in athletes – preliminary results”, Poster presentation at the UW-Green Bay Academic Excellence Symposium, March 30, 2010.

Marker, J.C., Danielle Pozolinski, Sheri Norton, Amanda Seehaver, “Effects of Caffeine on Blood Pressure, Heart Rate, and VO₂ During Exercise”, Poster presentation at the 10th UW-Green Bay Academic Excellence Symposium, April 19, 2011.

Marker, J.C., Danielle Gemignani, Amanda Luedtke, Kathryn Wolff, Sarah Zarter, “Energy Expenditure for Forward vs. Backward Walking”, Poster presentation at the 10th UW-Green Bay Academic Excellence Symposium, April 19, 2011.

Marker, J.C., Hanke, C., Nelson, A., Amanda Cheney, Cassie Welch, Evan Wenig, “A Comparison of Three Methods of Determining Lung Function New vs. Old Technology”, Poster presentation at the 11th UW-Green Bay Academic Excellence Symposium, 2012.

Hanke, C., Marker, J.C., Nick Burgraff, Brenda Peebles, “The Effect of a Music on Exercise”, Poster presentation at the 13th UW-Green Bay Academic Excellence Symposium, April 2014.

Dr. Meinhardt continues to be an effective teacher, advisor and scholar. His strength as an instructor is his versatility to effectively teach in several areas. Whether it is Intro to Human Biology, Evolutionary Biology, Anatomy and Physiology, or Art and Science, he provides students with a meaningful and relevant learning experience. He has provided opportunities for dozens of Human Biology students to be involved in research and often does so via collaboration with colleagues (e.g., Dr. Bauer). He also has supervised several Biology students working on a long-term snake study through the Biodiversity Center.

Recently Dr. Meinhardt reoriented his scholarship on public science education, focusing on sex and gender diversity. He joined the faculty of Women's and Gender Studies last year, and has given numerous presentations to community groups over the last two years. For this work he was recently (2015) given the Faculty Lavender Leadership Award by the Pride Center. He also published several popular science articles and one peer-reviewed research paper.

Dr. Merkel continues to be an effective and teacher, advisor and scholar. Of particular significance, he teaches Microbiology lecture and lab and Immunology, key courses for our students, and particularly important in preparing them for careers in "medicine". His dedication to assisting and inspiring students to gain admission into highly competitive graduate programs was highlighted in the June 2014 issue of *Inside Magazine*. Over the last 7 years, the average median overall score on CCQ analysis for his courses is a 9.5. He has provided opportunities for students to be involved in research with projects related to the effects of PCBs and herbal supplements on immune function. The herbal supplement project represents an ongoing collaboration with Professors Mike Zorn and Julie Wondergem from Natural and Applied Sciences. These areas of research have been presented at the annual UW-Green Bay undergraduate research symposium (spring 2012) and in a peer-reviewed publication, *BIOS* in 2012. A FASEB poster presentation in 2008 focused on a method to integrate scholarship and teaching. Over much of the time period for this review Dr. Merkel served as an effective chair (2008-2014) and advisor for the Biology discipline, serving close to or more than 100 advisees for the last several years while overseeing significant changes to the curriculum during his tenure as chair. He continues to be the advisor for UW-Green Bay's chapter of the biological honor society, Tri-beta, an organization his leadership was instrumental in obtaining for UW-Green Bay in 1998.

Merkel, B. J., (2008) Using an Undergraduate Immunology Laboratory Course to Integrate Scholarship and Teaching. *FASEB J.* 22:1b562

Merkel, B.J., Nina Salerno, Kim Schoen and Megan Verbsky. (Spring 2011) The effects of Echinacea on superoxide anion production by freshly isolated human neutrophils. UW-Green Bay Academic Excellence Symposium.

Merkel, B.J., Zorn, M., Jessica Stolfi and Lauren Caruso. (Spring 2013) The effects of Echinacea on superoxide anion production by HL 60 cells. UW-Green Bay Academic Excellence Symposium.

The Effects of Aroclor 1260 on Antigen Presentation and Superoxide Anion Production in CD2F1 mice. Brian Merkel, Kristy Nelson, Lynn Sternhagen, and John Phythyon *BIOS* 83(4) 121-126, 2012

Dr. Mueller was hired during the last year of this review period. He brings vast experience to the unit in both teaching and scholarship. In addition to teaching the important Cell Biology lecture and lab, he will use his background in cell cycle regulation and developmental biology to provide many opportunities for students to do research in these areas.

Sample/recent publications (not done at UW-Green Bay)

Zhu, X. N., D. H. Kim, H. R. Lin, V. N. Budhavarapu, H. B. Rosenbaum, P. R. Mueller, and P. R. Yew (2013). Proteolysis of Xenopus Cip-Type CDK Inhibitor, p16Xic2, is regulated by PCNA Binding and CDK2 Phosphorylation. *Cell Division*. 8:5 DOI: 10.1186/1747-1028-8-5

Choudhury, D. R., C. Small, Y. Wang, P. R. Mueller, V. Rebel, M. D. Griswold, and J. R. McCarrey (2010). Microarray-Based Analysis of Cell Cycle Gene Expression During Spermatogenesis in the Mouse. *Biology of Reproduction*. 83:663-675.

Dr. Nelson continues to be an effective teacher, advisor and scholar. Of particular significance, she teaches Anatomy and Physiology lecture and coordinates the lab. This course is now required of all our majors, and it is an important course for all of our students regardless of their particular academic or career objectives. Dr. Nelson delivers challenging course material in an effective manner, which has been well received by students. This was highlighted when she was selected as the 2011 recipient of the UWGB Student Nominated Teaching Award (early career). Dr. Nelson has also developed and co-taught a popular new travel course to Germany/Poland/Czech Republic entitled “Whispering from Beyond,” which focuses on the use of human cadavers in teaching and research environments. The course includes a four-day workshop at the Plastinarium in Guben, Germany where the world-renowned traveling exhibit “Body Worlds” originated. Outside of the classroom, Dr. Nelson has provided ample opportunities for students to be involved in whole animal research involving neuroplastic adaptations to exercise training. In addition, she has collaborated with Dr. Marker and Dr. Hanke on a research project in the area of pulmonary function. She has presented her research at the annual UWGB undergraduate research symposium. In addition to providing undergraduate research opportunities, Dr. Nelson continues to supervise student clinical internships, cadaver dissection experiences, and undergraduate teaching assistantships. Beyond her significant contribution to university committee service, Dr. Nelson’s community outreach includes developing and directing a high school science camp entitled “Life’s a Lab: Reality Science” and coordinating the science portion of the annual Green Bay High School Academic Competition.

Publications:

1. Ashmann, S.A. & Nelson, A.J. (2012). Why do I crave that cookie?: Teaching the integration of human body systems. *The Science Teacher*, 10: 43-47.
2. Nelson, A.J., Juraska, J.M., Ragan, B.G., & Iwamoto, G.A. (2010). Effects of exercise training on dendritic morphology in the cardiorespiratory and locomotor centers of the mature rat brain. *J Appl Physiol*, 108: 1582-1590.
3. Iwamoto, G.A. & Nelson, A.J. (2008). Commentary on viewpoint. Exercise and cardiovascular risk reduction: Time to update the rationale for exercise. *J Appl Physiol*, 105: 773.
4. Ragan, B.G., Nelson, A.J., Bell, G.W., & Iwamoto, G.A. (2007). Salicylate-based analgesic balm attenuates pressor responses from skeletal muscle. *Med Sci Sports Exerc*, 39 (11): 1942-1948.

Presentations:

1. Nelson, A.J. (2015). Effects of exercise training on neuroplasticity in cardiorespiratory and locomotor centers of the brain. Invited presentation - Michigan Technological University KIP spring seminar series, Houghton, MI.
2. Nelson, A.J. (2011). Effects of exercise training across the lifespan on dendritic morphology in cardiorespiratory and locomotor centers of the brain. Invited presentation - Lawrence University Department of Biology senior seminar (RATTLE), Appleton, WI.
3. Hecker, L. & Nelson, A.J. (2011). Dendritic attenuation of the brain due to forced exercise training. Presented at the UWGB Academic Excellence Symposium, Green Bay, WI.
4. Iwamoto, G.A., Nelson, A.J., Bunick, A.C.F., & Bunick, D. (2010). Molecular evidence for the mechanism underlying dendritic remodeling in caudal hypothalamus during exercise training in rats. Presented at the annual Kemp Station Cardiorespiratory Control Symposium, Woodruff, WI.
5. Beyer, S.J. & Nelson, A.J. (2010). Exploration of total ankle replacement surgery. Presented at the UWGB Academic Excellence Symposium, Green Bay, WI.
6. McNicoll, J. & Nelson, A.J. (2009). Neuroplasticity in brain cardiorespiratory and locomotor areas of aged animals. Presented at the UWGB Academic Excellence Symposium, Green Bay, WI.
7. Nelson, A.J. & Iwamoto, G.A. (2008). Cardiorespiratory neuroplastic adaptations due to exercise training across the lifespan. Presented at the annual Kemp Station Cardiorespiratory Control Symposium, Woodruff, WI.
8. Nelson, A.J. (2008). Neuroplastic adaptations due to exercise training and detraining. Presented at the UWGB Tri-Beta Induction Ceremony, Green Bay, WI.

Dr. Pearson continues to be an effective and popular teacher, advisor and scholar. She teaches Human Nutrition and Nutritional Biochemistry, key courses for the Nutritional Science emphasis. These courses are particularly important in preparing students for careers related to nutritional science and particularly so for those pursuing the path of being a Registered Dietician. Beyond that, Dr. Pearson's courses have proven to be popular and meaningful for non-majors. Dr. Pearson has provided opportunities for students to be involved in research and often does so via collaboration with colleagues. Working with Dr. Marker, she provided a number of students research opportunities on a project looking at the impact of vitamin D on exercise capacity. The research was presented at the annual UW-Green Bay undergraduate research symposium. She keeps up with the literature in her field and integrates it into her coursework. She wrote a review article on vitamin K. Her expertise and passion for "all things nutritional" have made her a popular presenter in the community. Related to that, Dr. Pearson has done several continuing education lectures for health practitioners (registered dietitians, nurses, doctors) at the annual state conference for the Wisconsin Academy of Nutrition and Dietetics (WAND), the Milwaukee Area Dietetics Association and the Wisconsin Society for Parenteral and Enteral Nutrition. In addition, she has been invited to be a speaker at a number of Wisconsin county agriculture conferences on the topic of the nutritional implications of agricultural practices related to crops and livestock. Of particular significance, Dr. Pearson completed the coursework and an extensive internship to obtain her Registered Dietitian credential (RD). This strengthened her ability to mentor our students and positioned her to be the director of the undergraduate program.

Pearson, D., Marker, J.C., Colby Vorland, Debra Pearson, James Marker, Erica Kiela, Lindsey Provenzano, Laura Hayward, Zacharia Davoodi, Renee Reindl, Jolene Sell, "The effect of vitamin D on muscle power in athletes – preliminary results", Poster presentation at the UW-Green Bay Academic Excellence Symposium, March 30, 2010.

Pearson, D. A. 2009. Book Chapter, The Effect of Agricultural Practices on Nutrient Profiles of Foods, in *Critical Food Issues*. Editors, Lynn Walter and Laurel Phoenix, Praeger/Greenwood Publishers, 2009.

Pearson, D. A. 2007. Bone Health and Osteoporosis: The role of vitamin K and potential antagonism by anticoagulants. *Nutrition in Clinical Practice*, 22: 517-544.

Dr. Pott continues to be an effective advisor, teacher, and scholar. Of particular significance, he effectively teaches Principles of Biology, Cellular and Molecular processes: lecture and lab, a key course for ALL Human Biology and Biology majors. It is imperative that he provide students with a solid foundation in (cell) biology because that foundation will be germane to the rest of their academic and professional careers! His conscientiousness in this role is evidenced by his redesigning the course and lab. He did this in collaboration with Dr. Kim Baker and others. Dr. Pott serves ably as the pre-veterinary advisor for our students.

In addition, Dr. Pott developed a new upper-level course in Animal Behavior. Because this topic was outside of his area of expertise, he took a sabbatical at Indiana University in Bloomington, IN in the fall of 2009, to conduct research in bird behavior. Not only did this experience enable him to give his students a more authentic experience in the classroom, but also did this work result in a co-authorship on a scientific publication in 2013. Dr. Pott also continued his research on canine heartworm; preliminary data were presented by his student collaborator, Brad Beaumier, at a state-wide University of Wisconsin meeting for undergraduate research in the spring of 2012 at UW-Parkside.

Gregory M. Kohn, Andrew P. King, Uwe Pott & Meredith J. West (2013): Robust Fall Social Displays Predict Spring Reproductive Behavior in Brown-Headed Cowbirds (*Molothrus ater ater*), *Ethology* 119: 1–11, Blackwell

Bradley Beaumier & Uwe Pott: Heartworm Detection in Wild-Caught Mosquitoes from Northeastern Wisconsin, 12th Annual UW System Symposium for Undergraduate Research and Creative Activity, UW-Parkside, April 27, 2012.

Ms. Sara Schmitz continues to be an effective teacher, advisor, and administrator. She was hired in 2011 and serves as the current Director of the undergraduate Didactic Program in Nutrition and Dietetics. In this role she is responsible for assurance of all ACEND standards, policies, and competencies related to the dietetics curriculum as well as program management. She is also responsible for teaching 21 credits per academic year, which includes five unique upper-level nutrition courses and three unique general education courses. She has been nominated for a student-nominated teaching award each academic year since becoming a full-time faculty member. In 2013, she was awarded the Margene Wagstaff Fellowship for Innovation in Dietetics Education by the Academy of Nutrition and Dietetics. She has applied for and received grant funding to partner with Bellin College of Nursing to provide human patient simulation learning as a part of the Medical Nutrition Therapy curriculum - a unique and forward thinking learning tool in the field of dietetics education. She also serves as the faculty advisor for the student organization, Healthy Fork. Sara frequently attends the Nutrition and Dietetics Educators and Preceptors meetings to support efficient and effective management of the undergraduate dietetics program.

Dr. Zhu continues to be an effective and teacher, advisor and scholar. Of particular significance, she teaches Community Nutrition and Quantity Foods which are key courses for the Nutritional Science emphasis, the latter being the principle food science course for students. These course are particularly important in preparing students for careers related to nutritional science, and particularly so, for those pursuing the path of being a Registered Dietician. Dr. Zhu joined the HUB faculty in fall of 2008. She along with this Sara Schmitz and Shelly Gabel expanded the dietetic internship program in 2013.

Peer-reviewed Publications

Zhu L, Glahn RP, Nelson D, and Miller DD. 2009. Comparing Soluble Ferric Pyrophosphate to Common Iron Salts and Chelates as Sources of Bioavailable Iron in a Caco-2 Cell Culture Model. *J. Agric. Food Chem.* 57, 5014-5019.

Beverly A, Zhu L, Fish TL, Thannhauser T, Rutzke MA, and Miller DD. 2012. Green Tea Ingestion by Rats Does Not Affect Iron Absorption but Does Alter the Composition of the Saliva Proteome. *Journal of Food Science*, Vol. 77, H96-H104.

Presentations

Zhu L., Early K., Himmelheber S. Understanding Public Food Donations: A First Step in Improving Healthy Food Pantry Options. *Journal of the Academy of Nutrition and Dietetics*, A-69. September 2014 Supplement 2-Abstracts.

Zhu L, Beverly A, Fish TL, Thannhauser T, and Miller DD. 2009. Ingestion of Tea by Rats Does Not Affect Iron Absorption but Does Alter the Composition of the Saliva Proteome. A poster presentation was presented by Beverly A. at the IFT annual meeting & Food Expo in Anaheim, CA, June 6-10 2009.

Korger L and Zhu L. The Farm Fresh Atlas of Eastern Wisconsin. 2010. A poster presentation was presented at the UWGB Academic Excellence Symposium, Green Bay, WI.

Planasch T and Zhu L. Internship with Lakeside Foods. 2013. A poster presentation was presented at the UWGB Academic Excellence Symposium, Green Bay, WI.

Zhu L. Micronutrient fortification in China: A Case study on program implementation, food safety, and the change of cultural norms. February 2012. An oral presentation was presented at the UW-Green Bay Gerontology Center Brown Bag Discussion – focusing on iron deficiency among aging adults in China.

Zhu L. Micronutrient fortification in China: A Case study on program implementation, food safety, and the change of cultural norms. April 2012. Keynote Speaker. An oral presentation was presented at the UW-Green Bay Dietetic Internship Spring Conference – focusing on the impact of culture on public health initiatives.

Early K. and Zhu L. Healthy Food Pantry Initiative. March 2014. A 70-minute oral presentation was presented at the Joint Council of Extension Professionals-Wisconsin (JCEP) meeting in La Crosse, WI.

Award recipient of the Pan-American Nutrition, Food Science and Technology Award 2008 in the USA zone, young scientist category; sponsored by GRUPO BIMBO of Mexico. This is a bi-annual worldwide competition which recognizes excellence in scientific research in the area of food, nutrition and health.

Instructor and Award recipient of the Salvation Army Cluster of Stars Award for excellent contribution as a group. Community Nutrition (NUT SCI 421) Class, May 2010. The nomination was based on our performance in the fall of 2009.

Dr. Zhu developed “Ethnic Influences on Nutrition” as a six-week, internet-based course in 2009. This course earned Quality Matters™ certification in 2013.

In 2011 the undergraduate Didactic program in Dietetics successfully completed a five-year self-study and reaccreditation review where we thoroughly evaluated student success and acquired student feedback. Sara would be able to elaborate more on this. I’m not sure if this belongs to program success or learning assessment, but this is certainly worth mentioning.

Dr. Donna Ritch, currently associate dean for the College of Liberal Arts and Sciences, served ably as our department chair from 1998-2007. During that time she was an effective teacher and advisor. Of particular significance, she taught Anatomy and Physiology and lab, a key course for all of our students regardless of their particular academic or career objectives. She continues to serve the unit / university by teaching Human Disease and Society, a First Year Seminar, and a travel abroad course to Germany/Poland for an anatomy workshop at the Plastinarium in Guben, Germany.

- Member of roundtable discussion “Integrating Liberal Education Outcomes into First Year Seminars” at Association of American Colleges and Universities 2010 meeting in Washington, D.C.
- Co-presented preconference workshop “Get With the (First Year Seminar) Program: Creating Connections to Engagement” at the 29th Annual Conference on First Year Experience in Denver, CO
- Co-Presentation “Engaging Our Interdisciplinary Mission: First Year Seminar Program Success” at 2010 President’s Summit on Excellence in Teaching and Learning, Madison, WI.
- Co-present preconference workshop at 30th Annual Conference on First Year Experience in Atlanta, GA in 2011
- Participated in the 31st Annual Conference of the First Year Experience (San Antonio, TX); co-presented preconference workshop “Get With the (First Year Seminar) Program: Creating Connections to Engagement” with Denise Bartell in 2011
- Reviewed proposals for acceptance for the 29th and 30th Annual Conference of the First Year Experience (2010 and 2011)
- Reviewed Love of Learning grants for Phi Kappa Phi (2011 and 2012)

Dr. Bauer was an effective teacher, (pre-med) advisor, administrator and scholar. She taught courses related to reproductive physiology which met an important curricular need for both majors and non-majors. Dr. Bauer's interest in SOTAL reflected her interest and passion for better serving women and students of diverse backgrounds. She provided many opportunities for students to be involved in research and often did so via collaboration with colleagues. She collaborated on research with Dr. Hanke, Dr. Meinhardt, and Dr. Baker. Dr. Bauer was an effective and able unit chair during this review period. After serving as chair, was selected to oversee learning assessment at UW-Green Bay. A valued, competent, and productive colleague on every level, Dr. Bauer's departure was truly a loss to the unit and university.

New Faculty: Dr. Mike Hencheck, a physicist, became a member of the Human Biology faculty beginning academic year 2011

Faculty within the Human Biology program continue to hone their teaching, enhance their service and further their scholarship, and in many cases, all at the same time.

Teaching:

Faculty are actively engaged in attending conferences and workshops to enhance their teaching. Members of the unit routinely attend (and present at) the annual UW-Green Bay teaching conference. Additionally, several of them have been **selected** to participate in the on-line teaching fellows training offered by CATL. This has resulted in their courses being Quality Matters (QM) certified.

Most faculty within Human Biology make use of undergraduate teaching assistants for either lecture or lab courses. This provides additional learning opportunities for them and the students in those classes.

Members of the Human Biology unit continue to mentor students by promoting internships, independent studies and research experiences. All of these experiences require time on the part of faculty member, and many of them require considerable time.

Many faculty participate in special summer education programs. This often involves developing lectures and lab activities for high-school students. Examples include Dr. Hanke and Merkel teaching in the Regional Center for Math and Science (RCMS) and Dr. Nelson teaching "Life's a Lab" as part of Outreach.

Most faculty within Human Biology have taught all or part of a course on-line. Developing an on-line course involves learning additional teaching strategies and related technologies including D2L on-line classroom management system, Camtasia, lecture capture, and video lecture recording. Being able to teach on-line courses (and use D2L) is critical for meeting the demand to provide greater access to university courses, and, as such, it has been a boon to the Adult Degree program at UW-Green Bay.

Several members of the Human Biology unit have been selected to teach for the Medical College of Wisconsin (MCW), specifically to be known as MCW-Green Bay. This initiative, begun in 2011, is an effort by MCW to provide more (needed) physicians to practice in primary health care (as opposed to specialized medicine). Members of Human Biology and Human Development were selected to be part of this initiative and have, over the past several years, been working with MCW to work out the logistics of this opportunity.

New Equipment: Faculty members continue to be attentive to the equipment needs of their laboratories.

Dr. Nelson, obtained funds to purchase a new (3rd) cadaver tank to be used for study of human anatomy.

Dr. Marker, Hanke and Nelson, with money from the dean, worked together to evaluate and purchase state-of-the-art EKG unit, blood pressure monitors, temperature monitors and pulse oximeters to be used in a variety of labs.

Dr. Hanke has, over the last several years, obtained instrumentation for 8 teaching stations designed to use the IWork physiology system. This required both technical and physiological expertise on the part of Dr. Hanke.

Dr. Zhu was awarded Lab Mod funding in 2014 to obtain several pieces of new equipment, supplies, and a much-needed renovation for the Food Science lab.

Dr. Marker, via 2 successfully funded lab mod grants (2013, 2014), obtained funding to keep the exercise physiology lab equipped with state-of-the-art devices including a metabolic cart, a treadmill, and a high-end exercise ergometer.

Dr. Pott was awarded Lab Mod funding in 2013 to purchase a new state-of-the-art thermal cycler and a blue-light transilluminator that significantly reduces students' and faculty members' exposure to harmful ultraviolet light.

Dr. Johnson was awarded Lab Mod funding in 2010 to purchase a gel documentation workstation that is heavily used in several courses.

Scholarship:

The scholarship component of Human Biology faculty is tightly integrated with providing student-research experiences. These research experiences are becoming more and more important (essential) to being accepted into biomedical graduate programs. There has been at least one, and often several, student research posters presented at EVERY Phi Kappa Phi undergraduate research symposium since that program was instituted 14 years ago.

Members of Human Biology attend and present at professional meetings and act as reviewers for textbooks, professional communications, and journal articles.

Scholarships: Due to the generosity of local philanthropists, Human Biology continues to be able to provide scholarships to students pursuing careers in biomedical sciences. Scholarship recipients are selected by a subcommittee of Human Biology faculty.

Student supported Organizations:

The **Bioscience Connection** is an organization for any student who has an interest in science, especially Human Biology or Biology. The mission of this organization is to connect students with career information. This student group is instrumental in bringing speakers to campus and planning trips to professional schools, museums, businesses, and hospitals that may be of interest to any students pursuing a career in the life sciences.

Tri-Beta is a national honorary society for Biology majors. A chapter, one of 400 throughout the country, was established at UW-Green Bay in 1997. The mission of the organization is to recognize and support academic excellence in the biological sciences and encourage undergraduate research, primarily through undergraduate research awards and conferences.

The **Dietetics Club** is a student organization consisting, but not limited to, Human Biology majors interested in nutrition and dietetics. The mission of the organization is to promote health and wellness. Students in this organization participate in many activities, including two major events, the annual Health Fair and the promotion of nutrition during March, National Nutrition Month.

Additional student/service organizations sponsored by Nutritional Science include: **SLO Food Alliance**, **Campus Kitchen**, and **Healthy Fork**.

A **Pre-Medicine Club** was established in 2004-2005. The mission of this organization is to allow those students who wish to pursue careers in medicine to arrange tour of medical facilities, arrange study groups for the Medical Admission College, and collaborate on the medical school application process.

Pre-PT-OT-AT Club (still needed a better name) is a student organization designed to assist students pursuing careers as physical therapists, occupational therapists, or athletic trainers. Meetings and guest speakers are designed to provide useful information about preparing to apply for these programs.

Social Media – there is a blog on the Human Biology web page and Dr. Bauer made an attempt to use Facebook as a means of communicating with students.

Web Page – the Human Biology web page is updated and upgraded as needed to make it informative and useful.

Advising – When students declare their major, the unit chair assigns students to faculty per their particular interest, but students always have the option to choose an advisor. To facilitate the pre-registration advising rush, we make a significant effort to accommodate student-advising by posting special advising hours on faculty member's doors. Additionally, e-mails are sent to students to explain the advising process with the intent of this being done efficiently as possible.

Staff – The support staff for Human Biology need to be recognized for their able and competent service. Janet Ludke and Mark Damie continue to provide high-end service. Mark Damie, the quintessential lab manager, received the Founders Award for academic support in 2014

Ad hoc instructors – Part of the success of the Human Biology program lies in the effective efforts of ad hoc instructors. They provide needed and valuable instruction to our majors and the student population at large. Don Drewiske, Laura Rowell, and Sarah Vandervest (Hanna), cover the majority of our ad hoc needs, have all proven to be effective and versatile instructors.

Service:

Faculty from Human Biology continue to be involved in significant leadership/service at UW-Green Bay and in the community. Members of the unit have chaired major committees on campus and have provided service in the community as board members and advisors. A notable aspect of this service has been an increase in service-learning wherein students, led by faculty, provide service to community organizations as part of the learning component to the classroom. Dr. Leeann Zhu was the 2009 recipient of the Salvation Army Cluster of Stars Award for excellent contribution from a group, that group being students enrolled in Community Nutrition, a course with a service-learning emphasis.

The Human Biology supports the university sponsored College Credit in High School (CCIHS). This “service” involves faculty members overseeing high school teachers approved to teach Introduction to Human Biology. This involves a faculty member meeting and mentoring these teachers. There are approximately four approved CCIHS instructors to date.

Student Success:

Student success continues to be the hallmark of the Human Biology program. While it is very difficult to obtain success rates for acceptance into biomedical grad programs, it is safe to say that a strong student graduating from the Human Biology program has a very high likelihood of being accepted into a graduate biomedical program. This includes all types of biomedical programs from cytotechnology to physical therapy to medicine. Considering the size of our university and the relative size of Human Biology graduates compared to other universities, the number of students accepted into professional programs is impressive.

As a means of “assessment”, we began to track student success as a unit by simply recording student successes as we learn of them. In addition to the list provided from alumni survey (attached to this form), please find below a condensed list of student acceptance and/or notable career developments obtained in just the last year. It includes only 4 examples from each emphasis.

Key – HS-Health Science; XS-Exercise Science; NS-Nutritional Science; G-general; C-cytotechnology

Emph	Name	Grad Yr	Biomedical Program	University	Career Note
HS	Beaumier, Brad		Vet School	University of Wisconsin	
NS	Boncher, Melissa	2010	Dietetic Internship Masters in Human Nutrition (in progress)	University of Nevada-Reno University of Alabama	Clinical Dietitian, St. Vincent Hospital
XS	Buelow, Emily	5-2014	MS –Sports Science and Recreation	UI-Edwardsville	Student Employee of Year
G	Depeau, Kim		Pathologists Assistant	Rosalind Franklin University of Medicine and Science	
NS	Fromm, Bridgett	5-011	Dietetic Internship and Master's Degree	Case Western Reserve University	Clinical Dietitian at Laurelwood Center for Behavioral Health
NS	(Workman) Goesch, Heather, MPH, RD	2007	Master of Public Health in Public Health Nutrition and Dietetic Internship	University of MN-Twin Cities	Publications Editor – Women's Health Dietetic Practice Group
XS	Jochimson, Kate	2010 ca	Entry level Masters of Athletic Training	Florida	Athletic Trainer w/ Aurora, teaches Prev. and Treatm at UWGB
HS	Matthews, Sam		Med School	University of Wisconsin	
XS	Pigeon, Andi	2010 ca	Entry level Masters of Athletic Training	Weber State University	Athletic Training and conditioning coach at WSU
XS	Prissel, Nathan	2013 ca	Doctor of Physical Therapy	UW-LaCrosse	
HS	Schill, Dan		Graduate school cell biology neurobiology and anatomy	MCW	
HS	Shariff, Julia	5-2015	Med School	MCW-Green Bay	
G	Short, Jennifer		physician assistant	Concordia University	
HS	Sperber, Brian			Kewaunee	DDS
XS	Stinson, Amanda	2009 ca	Doctor of Physical Therapy	Madison	
NS	Weber, Alexandra	2011	Master of Science, Nutrition and Wellness and Dietetic Internship	Benedictine University, Illinois	Registered Dietitian, St. Margaret's Hospital, Spring Valley, Illinois

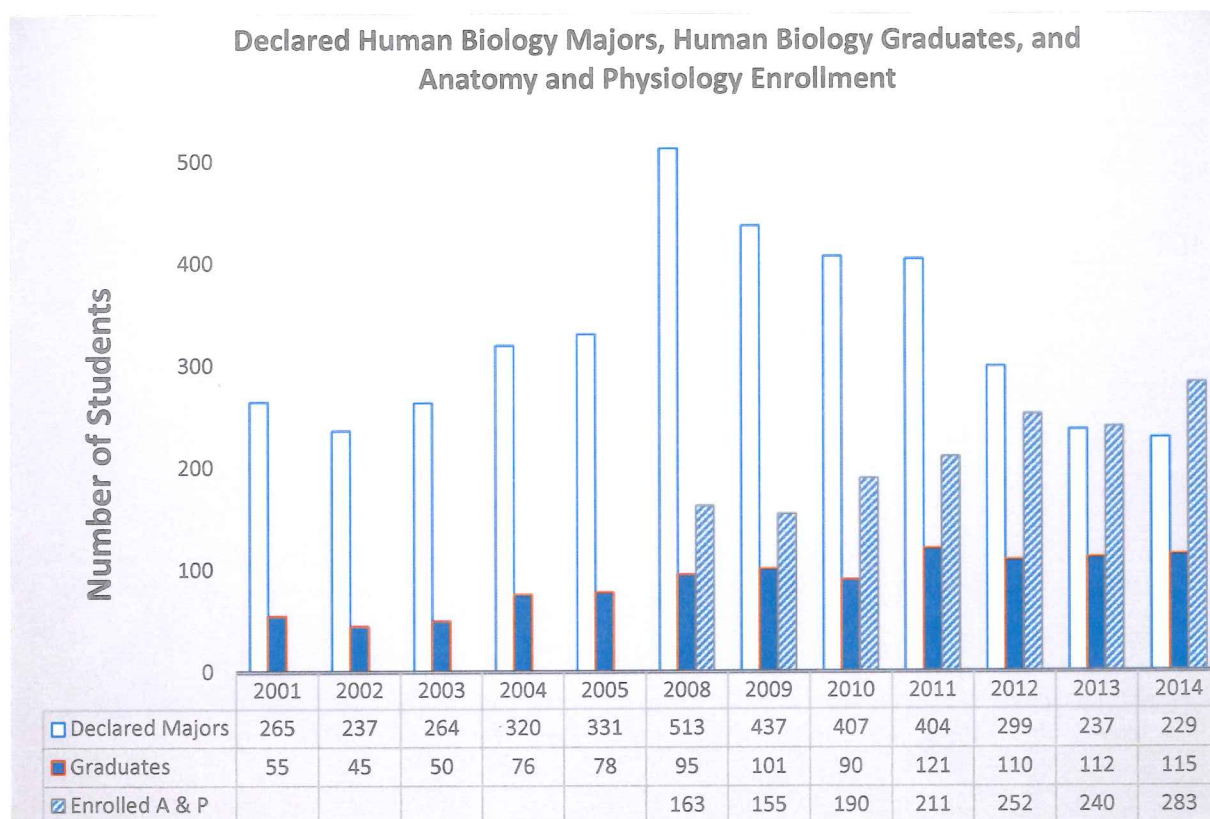
Human Biology students have presented their undergraduate research at every Phi Kappa Phi Undergraduate research symposium since the inception of the program. This research represents considerable effort on the part of faculty and staff to conduct independent research.

Human Biology students continue to pursue opportunities for internships. Some internships are designed as “shadowing experiences” to give students an opportunity to see, first hand, what a given career entails. Other internships are more in-depth and/or hands-on. They give students opportunities to work and learn alongside professionals. A prime example of this is Danny Theyes who recently did an internship with Lacey Fensky, alum of Human Biology, at the Ripon Hospital Cardiac Rehab center.

Human Biology students continue to be eager to be teaching assistants (TA) for lectures and/or laboratories. As mentioned previously, being a TA provides an important additional learning opportunity for these student.

D. Program Enrollment Trends and Analysis (see graphic below)

The number of declared majors has declined since 2011 when we instituted a GPA requirement for declaring a Human Biology major (average of 2.5 for four critical foundation courses). A better measure of student continuing student demand is the annual number of graduates. This number has remained steady (in spite of a drop in declared majors). The average number of graduates from 2008 to 2010 was 95.0. That number peaked in 2011 at 121, and from 2012 to 2014 the number of graduates averaged 112.3. The decline in declared majors is primarily the result of the instituting the policy requiring students to meet GPA and coursework standards BEFORE they can declare their major (see above). Again, in spite of this policy, the number of graduates has not decreased, i.e., we continue to graduate at least as many students as we did prior to instituting the restriction! As further evidence of the continued demand for to be a Human Biology major, one can look at enrollment in key Human Biology courses. Perhaps most telling is the enrollment data for Anatomy and Physiology, a course that all Human Biology majors must take. The data clearly show a trend of increased enrollment in this key Human Biology class. The quasi plateau over the last few years reflects a reduction in lab the number of lab sections - a consequence of reduced financial resources.



Data/documents provided for this review, provide further evidence for the continued demand for Human Biology can be seen in the overall increase in the number of lecture-labs offered and the increase in section size that occurred from 2008 to 2014.

The change in percentage of declared majors by class (freshmen-senior), is clearly related to the implementation of the policy for declaring a Human Biology major. The criteria of that policy, e.g., need at least a year of coursework, would, of course, change the percentage of declared majors by class. (The implementation of the policy for declaring a Human Biology major has, for some students, resulted in problems in registering. To address this, students are reminded that they can still register for classes (as an undeclared major) via completing the Academic Plan Waiver form available on the Registrar's web site.)

There is no significant change in the demographics of students that declare a Human Biology major. One could clearly argue that more emphasis should be given to recruiting male students as they make up only ~30% of Human Biology majors. Likewise, one can argue that efforts to recruit minorities (word used in the data table) as they make up only about 10% of declared majors.

The Graduating Senior Survey (2009-2013) indicates that Human Biology graduates rank their department higher than the university at large in quality of teaching (several components), advising (several components), critical thinking, problem solving and understanding the impact of science and technology. Furthermore, these graduates rated Human Biology higher than the university as a whole on encouraging community involvement and having a strong commitment to racial harmony on campus.

This survey also indicated that there is room for improvement within Human Biology in terms of course offering and/or availability. Likewise, Human Biology graduates did not feel that Human Biology contributed as much as the rest of the university on most of the issues related to social values, humanities, global issues and oral communication skills.

The results of the Alumni Survey (2009-2013) reflected similar trends to that of the Graduating Senior survey. High marks (compared the UW-Green Bay courses as a whole) were seen in problem solving skills, understanding the impact of science and appreciation for diversity. These alums indicated being highly prepared in terms of reading and listening skills and gave high scores on variables related to student-faculty relationships. Interestingly, while the graduating seniors did not perceive Human Biology as contributing as much (as university as a whole) to interdisciplinary, the alumni found the interdisciplinary component of Human Biology to be very significant when applying for employment.

E. Program's Vision for Future Development

Our highest priority is to continue to offer students a program that will facilitate their success in obtaining acceptance into graduate biomedical programs and/or finding meaningful and relevant employment. To that end we will continue our efforts to provide a curriculum that includes courses that are essential to those student-outcomes. Along with having an appropriate curriculum, we will continue to provide quality instruction that includes effective pedagogy, high rigor, individualized instruction and strong student mentoring. To this end it is imperative that we increase the number of faculty in our unit. While we have been able to maintain a respected and reputable program with the current number of faculty members, it has come at a cost to scholarship and individual faculty vigor. It can be argued that most faculty members in the unit are at the point where further demands without concomitant resources will compromise their effectiveness and passion for teaching, scholarship and service. We need to have additional faculty to take up some of the (teaching, advising, grading, mentoring) load associated with a program with an excessive student to faculty ratio! We also need faculty with expertise that will enable us to expand our program to offer standard courses in Human Biology that we currently are not able to offer – namely, Endocrinology, Cancer Biology, Histology and Epidemiology.

The Human Biology faculty are committed to seeking more external funding to support their (and student) research. To that end, we will engage in more discussions in our meetings and with one another on opportunities to fund our research. Initial discussions have centered on looking for funding from smaller foundation grants and/or NIH (AREA grant) funding as potential sources. We will also look at ways that we can streamline advising and other student-related endeavors to free up time to apply for funding.

It is clear that we need to revisit our many student learning outcomes. That discussion began last year as we considered which outcomes to assess. To that end, we will set up a subcommittee and/or have unit discussions related to reducing/focusing and our learning outcomes.

Related to learning outcomes, Human Biology will revisit the process of assessment, and in particular, develop a (better) mechanism for using the assessment data to monitor our program.

Based on changes in the trends and/or expected trends of healthcare, we have and will continue to propose the development of graduate programs. Specifically, there is a strong movement within the field of dietetics to require a masters in nutritional science as one of the requirements to be accepted into a Dietetic Internship program (needed to become a Registered Dietitian). Having such a program would concomitantly support UW-Green Bay's current Dietetic Internship program.

Similarly, there is a growing need for athletic trainers, particularly in this part of Wisconsin. To that end, we have proposed an Entry-level Masters in Athletic Training program. Having such a program would address the demand for these health professionals, provide our students with another (local) option for an AT program, and provide an opportunity to build professional relationship in the community.

Finally, we see an opportunity to prepare students for biomedical/clinical support programs that appear to be a growing component of health care. Not all of our students want or are able to pursue the high-end positions in health care, e.g., physician or physical therapist. As such, we feel an obligation and desire to help them find other satisfying career options in the health care industry. Our curriculum could be modified to prepare students for specific biomedical support programs such as nursing, medical technologists, cell technologists, speech pathologists etc. These new curricular "programs" would be modeled somewhat after our current Cytotechnology emphasis and would likely involve affiliation agreements per what we have with the Mayo clinic cytotechnology program. The development of these "pre-programs" could possibly lead to development of new full scale clinical programs here at UW-Green Bay.

F. Summary and Concluding Statement

The Human Biology program at UW-Green Bay is a vibrant, popular, respected and successful academic program that produces students that are competent and competitive in furthering their careers in biomedical sciences. Much of the success of the program is built on faculty that are able and caring instructors, advisors and mentors. Providing students with opportunities for individualized learning plays a big role in their preparation as these opportunities enhance perspective and knowledge about science and society.

The ability of the program to graduate students continues to be strong. In spite of having to restrict the number of declared majors, graduation rates are stable. Acceptance to graduate biomedical programs continues to be impressive in both quantity, quality and diversity of programs.

Students find their experience as a Human Biology major to include excellent teaching, advising, mentoring and advocacy. They report that their educational and training has prepared them equally or better than their peer graduate students. In addition to learning about science, our graduates report a high level of understanding and appreciation for diversity and service.

The goals of the Human Biology program include obtaining more faculty position, seeking (more) external funding for scholarship, revising student learning outcomes, and using assessment data more effectively to monitor the program.

Human Biology is committed to the strong tradition of preparing students that are qualified and competitive for biomedical careers. To continue and/or expand the program will require additional faculty and resources. The Human Biology program sees both needs and opportunities to augment the curriculum to include new programs that will continue the tradition of providing education and skills that contribute to our students' success.

G. Required Attachments

Academic Plan: Human Biology

Institutional Research - Run date: 20FEB2015

Fall Headcounts

	2008	2009	2010	2011	2012	2013	2014
Declared Majors, end of term	513	437	407	404	299	237	229
Declared Minors, end of term	57	65	72	59	46	35	32

Fall Declared Majors - Characteristics

	2008		2009		2010		2011		2012		2013		2014	
Female	367	72%	301	69%	285	70%	273	68%	208	70%	173	73%	173	76%
Minority	43	8%	37	8%	34	8%	35	9%	24	8%	20	8%	24	10%
Age 26 or older	50	10%	33	8%	24	6%	28	7%	16	5%	8	3%	8	3%
Location of HS: Brown County	105	20%	104	24%	94	23%	88	22%	66	22%	51	22%	50	22%
Location of HS: Wisconsin	468	91%	399	91%	372	91%	360	89%	272	91%	212	89%	201	88%
Attending Full Time	465	91%	382	87%	366	90%	346	86%	258	86%	210	89%	196	86%
Freshmen	113	22%	36	8%	15	4%	9	2%	0	0%	1	0%	1	0%
Sophomores	98	19%	96	22%	77	19%	61	15%	16	5%	11	5%	7	3%
Juniors	134	26%	128	29%	138	34%	141	35%	96	32%	61	26%	55	24%
Seniors	168	33%	175	40%	176	43%	192	48%	187	63%	164	69%	166	72%

Fall Declared Majors - Characteristics

	2008	2009	2010	2011	2012	2013	2014
Average HS Cumulative G.P.A.	3.38	3.40	3.41	3.41	3.43	3.50	3.54
Average ACT Composite Score	22.5	22.7	22.7	23.3	23.5	23.5	23.7
Average ACT Reading Score	22.7	22.8	23.0	23.5	23.6	23.4	23.5
Average ACT English Score	21.9	22.1	22.0	22.5	22.7	22.9	23.3
Average ACT Math Score	22.7	22.9	23.0	23.7	23.8	24.0	24.2
Average ACT Science Score	22.7	22.8	23.0	23.7	23.8	23.6	23.7

Academic Plan: Human Biology

Institutional Research - Run date: 20FEB2015

Fall Declared Majors - Characteristics							
	2008	2009	2010	2011	2012	2013	2014
Percent started as Freshmen	62%	57%	57%	53%	57%	55%	54%
Percent started as Transfers	38%	43%	43%	47%	43%	45%	46%
Percent with prior AA degree	9%	8%	9%	10%	11%	11%	12%
Percent with prior BA degree	8%	7%	6%	7%	6%	6%	6%

Calendar Year Headcounts							
	2008	2009	2010	2011	2012	2013	2014
Graduated Majors (May, Aug. & Dec.)	95	101	90	121	110	112	115
Graduated Minors (May, Aug. & Dec.)	14	23	19	21	10	11	11

Characteristics of Graduated Majors														
	2008		2009		2010		2011		2012		2013		2014	
Graduates who are... Women	64	67%	67	66%	64	71%	84	69%	78	71%	76	68%	87	76%
... Students of Color	6	6%	7	7%	7	8%	6	5%	10	9%	9	8%	7	6%
... Over 26 Years Old	23	24%	23	23%	24	27%	29	24%	20	18%	18	16%	19	17%
Graduates earning Degree Honors	35	37%	25	25%	21	23%	45	37%	45	41%	33	29%	33	29%

Characteristics of Graduated Majors							
	2008	2009	2010	2011	2012	2013	2014
Average Credits Completed Anywhere	138	138	139	139	139	137	139
Average Credits Completed at UWGB	108	115	112	117	117	113	113

Average Cum GPA for Graduates

3.29 3.17 3.19 3.29 3.34 3.24 3.26

Academic Subject: HUM BIOL

Institutional Research - Run date: 20FEB2015

			Headcount Enrollments, Credit-bearing Activities						
			2008	2009	2010	2011	2012	2013	2014
Lectures	1-Lower	1-Spring	711	832	757	951	874	848	824
		2-Summer	95	109	107	139	75	101	43
		3-Fall	984	1009	946	951	953	1458	1254
		All	1790	1950	1810	2041	1902	2407	2121
	2-Upper	1-Spring	226	271	270	206	271	242	268
		2-Summer	.	51	25	17	18	16	28
		3-Fall	135	196	171	150	158	167	215
		All	361	518	466	373	447	425	511
	All		2151	2468	2276	2414	2349	2832	2632
	IST/FEX	1-Lower	1-Spring	1	.
2-Summer			.	.	.	.	.	.	.
3-Fall			.	1	2	2	1	2	.
All			.	1	2	2	2	2	.
2-Upper		1-Spring	16	23	51	31	52	36	36
		2-Summer	5	7	10	5	8	16	12
		3-Fall	23	42	43	54	46	33	46
		All	44	72	104	90	106	85	94
All			44	73	106	92	108	87	94
All			2195	2541	2382	2506	2457	2919	2726

Academic Subject: HUM BIOL

Institutional Research - Run date: 20FEB2015

Student Credit Hours, Credit-bearing Activities

			2008	2009	2010	2011	2012	2013	2014
Lectures	1-Lower	1-Spring	2151	2504	2269	2879	2722	2497	2247
		2-Summer	329	369	417	503	305	397	215
		3-Fall	3000	3109	2974	3019	3099	3512	3353
		All	5480	5982	5660	6401	6126	6406	5815
	2-Upper	1-Spring	652	791	770	557	776	698	696
		2-Summer	.	153	75	51	18	16	64
		3-Fall	453	636	555	497	519	549	688
		All	1105	1580	1400	1105	1313	1263	1448
	All		6585	7562	7060	7506	7439	7669	7263
	IST/FEX	1-Lower	1-Spring	1	.
2-Summer			.	.	.	.	.	.	.
3-Fall			.	1	2	2	1	2	.
All			.	1	2	2	2	2	.
2-Upper		1-Spring	34	56	100	52	61	98	64
		2-Summer	14	25	28	15	29	36	21
		3-Fall	56	70	74	100	104	62	62
		All	104	151	202	167	194	196	147
All			104	152	204	169	196	198	147

Academic Subject: HUM BIOL

Institutional Research - Run date: 20FEB2015

Lectures and Lab/Discussion Sections (#)

			2008	2009	2010	2011	2012	2013	2014
Lectures	1-Lower	1-Spring	9	11	10	11	12	12	10
		2-Summer	4	4	3	4	3	4	1
	3-Fall	15	13	12	13	13	16	15	
	All		28	28	25	28	28	32	26

	2-Upper	1-Spring	7	10	10	7	11	9	11
		2-Summer	.	2	1	1	1	1	2
		3-Fall	4	6	6	5	5	6	7
		All	11	18	17	13	17	16	20
	All		39	46	42	41	45	48	46
Lab/Disc	1-Lower	1-Spring	3	3	3	4	5	5	6
		2-Summer	1	1	2	2	2	2	2
		3-Fall	3	3	3	4	6	4	3
		All	7	7	8	10	13	11	11
	2-Upper	1-Spring	.	2	2	1	2	2	2
		2-Summer	.	.	.	.	.	.	.
		3-Fall	2	2	2	2	2	2	2
		All	2	4	4	3	4	4	4
	All		9	11	12	13	17	15	15
All			48	57	54	54	62	63	61

Academic Subject: HUM BIOL

Institutional Research - Run date: 20FEB2015

			Average Section Size of Lectures						
			2008	2009	2010	2011	2012	2013	2014
Lectures	1-Lower	1-Spring	79.0	75.6	75.7	86.5	72.8	70.7	82.4
		2-Summer	23.8	27.3	35.7	34.8	25.0	25.3	43.0
		3-Fall	65.6	77.6	78.8	73.2	73.3	91.1	83.6
		All	63.9	69.6	72.4	72.9	67.9	75.2	81.6
	2-Upper	1-Spring	32.3	27.1	27.0	29.4	24.6	26.9	24.4
		2-Summer	.	25.5	25.0	17.0	18.0	16.0	14.0
		3-Fall	33.8	32.7	28.5	30.0	31.6	27.8	30.7
		All	32.8	28.8	27.4	28.7	26.3	26.6	25.6
	All		55.2	53.7	54.2	58.9	52.2	59.0	57.2

Unique Lecture Courses Delivered in Past Four Years

	2008	2009	2010	2011	2012	2013	2014
1-Lower	10	11	11	12	12	12	12
2-Upper	14	15	13	13	13	15	14

General Education as a Percent of all Credits in Lectures

	2008	2009	2010	2011	2012	2013	2014
1-Lower	79%	76%	75%	72%	65%	58%	57%
2-Upper	7%	13%	18%	8%	15%	18%	29%

Budgetary Unit: HUB

Institutional Research - Run date: 20FEB2015

Instructional Staff Headcounts and FTEs

	2008	2009	2010	2011	2012	2013	2014
Full Professors (FT)	0	0	1	1	1	0	.
Associate Professors (FT)	6	6	6	6	9	9	9
Assistant Professors (FT)	4	3	3	3	2	2	2
Instructors and Lecturers (FT)	1	1	0	0	1	1	1
Total Full-time Instructional Staff	11	10	10	10	13	12	12
Part-time Instructional Staff	5	5	6	7	.	.	.
FTE of Part-time Faculty	0.7	0.7	1.0	1.3	.	.	.
Total Instructional FTE	11.7	10.7	11.0	11.3	.	.	.

Student Credit Hours per Faculty FTE

2008	2009	2010	2011	2012	2013	2014
------	------	------	------	------	------	------

SCH per Full-time Faculty FTE	482	486	561	534	.	.	.
SCH per Part-time Faculty FTE	990	968	933	885	.	.	.
SCH per Faculty FTE	513	516	595	565	.	.	.

Human Biology

<http://www.uwgb.edu/human-biology/>

Interdisciplinary Major or Minor

(Bachelor of Science)

Associate Professors – Craig Hanke, Michael Hencheck, Warren V. Johnson, James C. Marker (Chair), Daniel Meinhardt, Brian Merkel, Amanda Nelson, Debra Pearson, Uwe Pott, Donna L. Ritch

Assistant Professors – Kimberly Baker, Paul Mueller, Leanne Zhu

Lecturer – Sara Schmitz

Human Biology focuses on the study of the biological, physiological, nutritional, developmental, and evolutionary aspects of humans. The major has an extensive range of offerings with core courses emphasizing human function, genetics, nutrition, and evolution.

Students who major in Human Biology gain extensive skills within the laboratory environment, including physiological, cellular, molecular, and statistical analyses. The laboratories house state-of-the-art instruments and equipment for students to gain valuable experience. Participation in faculty research projects or internships is strongly encouraged.

All Human Biology majors complete an area of emphasis within the program. There are five areas of emphasis within the major:

- The **health science emphasis** provides preparation for medical, dental or other health-related professional schools; for graduate programs in biological or biomedical sciences; or entry-level research positions with pharmaceutical or biotechnology companies.
- The **exercise science emphasis** provides background for careers in exercise physiology and fitness, sports medicine, biomechanics, physical therapy, or occupational therapy.
- The **cytotechnology emphasis** is offered in affiliation with professional programs of cytotechnology at UW-Madison and the Mayo Clinic (UW-Green Bay no longer has an affiliation with the Marshfield Clinic). Cytotechnology is the microscopic study of cells primarily for detection of cancer. This emphasis leads to a degree in Human Biology with eligibility for professional certification.
- The **nutritional sciences/dietetics emphasis** provides a focus on the biological and physical principles of nutrition. This emphasis is accredited as a Didactic Program in Dietetics by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics. Employment opportunities include healthcare, nutrition education, governmental and community health agencies, fitness facilities, public policy, agribusiness, and the food service industry. Students who successfully complete this program may apply for entry into a Dietetic Internship program, which is required to become a registered dietitian. Registered dietitians provide food and nutritional services with a focus on health promotion and disease prevention.
- The **general emphasis** is appropriate for students seeking careers in industrial, managerial, or sales positions in biological or health-related industries.

The Human Biology major/minor may be combined with other majors/minors for students interested in areas such as scientific journalism, scientific illustration, biological photography, genetic counseling, bioinformatics, public health administration, pharmaceutical sales, or other health-related professions.

Students may study abroad or at other campuses in the United States through UW-Green Bay's participation in international exchange programs and National Student Exchange. Travel courses are another option. For more information, contact the Office of International Education at (920) 465-2190 or see <http://www.uwgb.edu/international/>.

Students must receive an average minimum GPA of 2.5 in the following foundation courses, with a minimum grade of C in each course, before declaring a Human Biology major.

<u>BIOLOGY 202</u>	Principles of Biology: Cellular and Molecular Processes
<u>HUM BIOL 204</u>	Anatomy and Physiology
<u>CHEM 211</u>	Principles of Chemistry I
<u>CHEM 212</u>	Principles of Chemistry II

Minor

Applied Human Biology Emphasis

Supporting Courses

20

[BIOLOGY 202](#) Principles of Biology: Cellular and Molecular Processes

[CHEM 211](#)
& [CHEM 213](#) Principles of Chemistry I
and Principles of Chemistry I Laboratory

[CHEM 212](#)
& [CHEM 214](#) Principles of Chemistry II
and Principles of Chemistry II Laboratory

[HUM BIOL 204](#) Anatomy and Physiology

[HUM BIOL 207](#) Laboratory Safety

Upper-Level Courses

14-

16

[BIOLOGY 407](#)
& [BIOLOGY 408](#) Molecular Biology
and Molecular Biology Laboratory

or [CHEM 330](#)
& [CHEM 331](#) Biochemistry
and Biochemistry Laboratory

Choose one of the following courses:

[BIOLOGY 346](#) Comparative Physiology

[HUM BIOL 350](#) Exercise Physiology

[HUM BIOL 402](#) Human Physiology

Electives

Choose 7-8 credits of upper-level Biology, Chemistry, Human Biology or Nutritional Sciences courses with assistance of a faculty adviser.

Total Credits

34-

36

General Human Biology Emphasis

Supporting Courses

BIOLOGY 202	Principles of Biology: Cellular and Molecular Processes	4
HUM BIOL 204	Anatomy and Physiology	5
HUM BIOL 207	Laboratory Safety	1

Select the following: 5 -10

CHEM 108 & CHEM 109	General Chemistry and General Chemistry Laboratory	
or CHEM 211 & CHEM 213 & CHEM 212 & CHEM 214	Principles of Chemistry I and Principles of Chemistry I Laboratory and Principles of Chemistry II and Principles of Chemistry II Laboratory	

Upper-Level Courses 12-13

Choose one course from each of the following areas:

Genetics

BIOLOGY 303	Genetics
or HUM BIOL 310	Human Genetics

Physiology

HUM BIOL 350	Exercise Physiology
or HUM BIOL 402	Human Physiology

Nutrition

NUT SCI 300	Human Nutrition
or NUT SCI 302	Ethnic Influences on Nutrition

Cell Biology

BIOLOGY 302	Principles of Microbiology
or BIOLOGY 307	Cell Biology

Total Credits 27-33

General Human Biology Emphasis

Supporting Courses

27-30

BIOLOGY 202	Principles of Biology: Cellular and Molecular Processes
CHEM 211 & CHEM 213	Principles of Chemistry I and Principles of Chemistry I Laboratory
CHEM 212 & CHEM 214	Principles of Chemistry II and Principles of Chemistry II Laboratory
ENG COMP 105	Expository Writing ¹
HUM BIOL 204	Anatomy and Physiology
HUM BIOL 207	Laboratory Safety
MATH 260	Introductory Statistics

Choose one of the following courses:

COMM 133	Fundamentals of Public Address (Or Oral Communication)
ENGLISH 104	Introduction to Literature (Or any English Literature course)

Or one year of any college-level foreign language

Upper-Level Courses

30-31

Choose one course from three of the four areas:

Genetics

BIOLOGY 303	Genetics
or HUM BIOL 310	Human Genetics

Physiology

HUM BIOL 350	Exercise Physiology
or HUM BIOL 402	Human Physiology

Nutrition

NUT SCI 300	Human Nutrition
or NUT SCI 302	Ethnic Influences on Nutrition

Cell Biology

BIOLOGY 302	Principles of Microbiology
or BIOLOGY 307	Cell Biology

General Emphasis Electives (choose 21 credits): ²

<u>BIOLOGY 302</u>	Principles of Microbiology
<u>BIOLOGY 304</u>	Genetics Laboratory
<u>BIOLOGY 308</u>	Cell Biology Laboratory
<u>BIOLOGY 340</u>	Comparative Anatomy of Vertebrates
<u>BIOLOGY 402</u>	Advanced Microbiology
<u>BIOLOGY 408</u>	Molecular Biology Laboratory
<u>BIOLOGY 411</u>	Developmental Biology Laboratory
<u>CHEM 331</u>	Biochemistry Laboratory
<u>CHEM 408</u>	Molecular Biology Laboratory
<u>HUM BIOL 350</u>	Exercise Physiology
<u>HUM BIOL 351</u>	Kinesiology
<u>HUM BIOL 403</u>	Human Physiology Laboratory
<u>HUM BIOL 423</u>	Immunology Lab
<u>HUM BIOL 427</u>	Cancer Biology Laboratory
<u>NUT SCI 327</u>	Nutritional Biochemistry

Additional Upper-Level Electives

<u>BIOLOGY 302</u>	Principles of Microbiology
<u>BIOLOGY 303</u>	Genetics
<u>BIOLOGY 304</u>	Genetics Laboratory
<u>BIOLOGY 307</u>	Cell Biology
<u>BIOLOGY 308</u>	Cell Biology Laboratory
<u>BIOLOGY 309</u>	Evolutionary Biology
<u>BIOLOGY 340</u>	Comparative Anatomy of Vertebrates
<u>BIOLOGY 345</u>	Animal Behavior
<u>BIOLOGY 346</u>	Comparative Physiology
<u>BIOLOGY 402</u>	Advanced Microbiology
<u>BIOLOGY 407</u>	Molecular Biology
<u>BIOLOGY 408</u>	Molecular Biology Laboratory
<u>BIOLOGY 410</u>	Developmental Biology
<u>BIOLOGY 411</u>	Developmental Biology Laboratory

<u>CHEM 300</u>	Bio-Organic Chemistry
<u>CHEM 301</u>	Bio-Organic Chemistry Laboratory
<u>CHEM 302</u>	Organic Chemistry I
<u>CHEM 303</u>	Organic Chemistry II
<u>CHEM 304</u>	Organic Chemistry Laboratory I
<u>CHEM 305</u>	Organic Chemistry Laboratory II
<u>CHEM 311</u>	Analytical Chemistry
<u>CHEM 330</u>	Biochemistry
<u>CHEM 331</u>	Biochemistry Laboratory
<u>CHEM 407</u>	Molecular Biology
<u>CHEM 408</u>	Molecular Biology Laboratory
<u>HUM BIOL 310</u>	Human Genetics
<u>HUM BIOL 324</u>	The Biology of Women
<u>HUM BIOL 333</u>	Principles of Sports Physiology
<u>HUM BIOL 350</u>	Exercise Physiology
<u>HUM BIOL 351</u>	Kinesiology
<u>HUM BIOL 402</u>	Human Physiology
<u>HUM BIOL 403</u>	Human Physiology Laboratory
<u>HUM BIOL 405</u>	Biotechnology and Ethics
<u>HUM BIOL 413</u>	Neurobiology
<u>HUM BIOL 422</u>	Immunology
<u>HUM BIOL 423</u>	Immunology Lab
<u>HUM BIOL 426</u>	Cancer Biology
<u>HUM BIOL 427</u>	Cancer Biology Laboratory
<u>HUM BIOL 444</u>	Endocrinology
<u>HUM BIOL 495</u>	Research in Human Biology
<u>HUM BIOL 497</u>	Internship
<u>HUM BIOL 498</u>	Independent Study
<u>NUT SCI 300</u>	Human Nutrition
<u>NUT SCI 302</u>	Ethnic Influences on Nutrition

<u>NUT SCI 327</u>	Nutritional Biochemistry
<u>NUT SCI 350</u>	Life Cycle Nutrition
<u>NUT SCI 427</u>	Advanced Nutrition and Metabolism
<u>NUT SCI 495</u>	Research in Nutritional Science
<u>NUT SCI 497</u>	Internship
<u>NUT SCI 498</u>	Independent Study
<u>PSYCH 300</u>	Research Methods in Psychology
<u>PSYCH 308</u>	Physiological Psychology
<u>PSYCH 435</u>	Abnormal Psychology
<u>PSYCH 450</u>	Health Psychology

Total Credits

57-61

¹ Satisfied with an ACT English score of 32 or higher

² Select upper-level courses with assistance of a faculty adviser. A maximum of two PSYCH courses can be applied to the major. Minimum of three upper-level laboratory courses.

Health Science Emphasis

Supporting Courses ¹

41-44

[BIOLOGY 202](#) Principles of Biology: Cellular and Molecular Processes

[CHEM 211](#)
& [CHEM 213](#) Principles of Chemistry I
and Principles of Chemistry I Laboratory

[CHEM 212](#)
& [CHEM 214](#) Principles of Chemistry II
and Principles of Chemistry II Laboratory

[ENG COMP 105](#) Expository Writing ²

[HUM BIOL 204](#) Anatomy and Physiology

[HUM BIOL 207](#) Laboratory Safety

[MATH 260](#) Introductory Statistics

Choose one of the following courses:

[MATH 104](#) Elementary Functions: Algebra and Trigonometry

[MATH 202](#) Calculus and Analytic Geometry I

[MATH 203](#) Calculus and Analytic Geometry II

Choose one of the following options:

[PHYSICS 103](#)
& [PHYSICS 104](#) Fundamentals of Physics I
and Fundamentals of Physics II

[PHYSICS 201](#)
& [PHYSICS 202](#) Principles of Physics I
and Principles of Physics II

Choose one of the following courses:

[COMM 133](#) Fundamentals of Public Address (Or Oral Communication)

[ENGLISH 104](#) Introduction to Literature (Or any English Literature course)

Or one year of any college-level foreign language

Upper-Level Courses

32-33

Choose three of the following courses:

[BIOLOGY 303](#) Genetics

or [HUM BIOL 310](#) Human Genetics

[BIOLOGY 307](#) Cell Biology

[HUM BIOL 402](#) Human Physiology

<u>NUT SCI 300</u>	Human Nutrition
Required Courses	
<u>BIOLOGY 302</u>	Principles of Microbiology
<u>CHEM 302</u> & <u>CHEM 304</u>	Organic Chemistry I and Organic Chemistry Laboratory I
<u>CHEM 303</u> & <u>CHEM 305</u>	Organic Chemistry II and Organic Chemistry Laboratory II
<u>CHEM 311</u>	Analytical Chemistry
or <u>CHEM 330</u>	Biochemistry

Health Science Electives (choose 8 credits):

Minimum of two upper-level laboratory courses. ³

<u>BIOLOGY 304</u>	Genetics Laboratory
<u>BIOLOGY 308</u>	Cell Biology Laboratory
<u>BIOLOGY 340</u>	Comparative Anatomy of Vertebrates
<u>BIOLOGY 402</u>	Advanced Microbiology
<u>BIOLOGY 408</u>	Molecular Biology Laboratory
<u>BIOLOGY 411</u>	Developmental Biology Laboratory
<u>CHEM 331</u>	Biochemistry Laboratory
<u>CHEM 408</u>	Molecular Biology Laboratory
<u>HUM BIOL 403</u>	Human Physiology Laboratory
<u>HUM BIOL 423</u>	Immunology Lab
<u>HUM BIOL 427</u>	Cancer Biology Laboratory

Additional Upper-Level Electives

<u>BIOLOGY 303</u>	Genetics
<u>BIOLOGY 304</u>	Genetics Laboratory
<u>BIOLOGY 307</u>	Cell Biology
<u>BIOLOGY 308</u>	Cell Biology Laboratory
<u>BIOLOGY 309</u>	Evolutionary Biology
<u>BIOLOGY 340</u>	Comparative Anatomy of Vertebrates
<u>BIOLOGY 345</u>	Animal Behavior

<u>BIOLOGY 402</u>	Advanced Microbiology
<u>BIOLOGY 407</u>	Molecular Biology
<u>BIOLOGY 408</u>	Molecular Biology Laboratory
<u>BIOLOGY 410</u>	Developmental Biology
<u>BIOLOGY 411</u>	Developmental Biology Laboratory
<u>CHEM 311</u>	Analytical Chemistry
<u>CHEM 330</u>	Biochemistry
<u>CHEM 331</u>	Biochemistry Laboratory
<u>CHEM 407</u>	Molecular Biology
<u>CHEM 408</u>	Molecular Biology Laboratory
<u>HUM BIOL 310</u>	Human Genetics
<u>HUM BIOL 324</u>	The Biology of Women
<u>HUM BIOL 403</u>	Human Physiology Laboratory
<u>HUM BIOL 405</u>	Biotechnology and Ethics
<u>HUM BIOL 413</u>	Neurobiology
<u>HUM BIOL 422</u>	Immunology
<u>HUM BIOL 423</u>	Immunology Lab
<u>HUM BIOL 426</u>	Cancer Biology
<u>HUM BIOL 427</u>	Cancer Biology Laboratory
<u>HUM BIOL 444</u>	Endocrinology
<u>HUM BIOL 495</u>	Research in Human Biology
<u>HUM BIOL 497</u>	Internship
<u>HUM BIOL 498</u>	Independent Study

Total Credits

73-77

¹ It is highly recommended that as **freshmen**, pre-medical and pre-dental students take [BIOLOGY 202](#) and [CHEM 211](#), [CHEM 212](#), [CHEM 213](#), [CHEM 214](#) and consult and adviser.

² Satisfied with an ACT English score of 32 or higher.

³ [BIOLOGY 340](#) and [BIOLOGY 402](#) are 4 credits each, all other courses in this list are 1 credit.

Exercise Science Emphasis

Supporting Courses

30-36

BIOLOGY 202	Principles of Biology: Cellular and Molecular Processes
CHEM 211 & CHEM 213	Principles of Chemistry I and Principles of Chemistry I Laboratory
CHEM 212 & CHEM 214	Principles of Chemistry II and Principles of Chemistry II Laboratory
ENG COMP 105	Expository Writing ¹
HUM BIOL 116	First Aid and Emergency Care Procedures ²
HUM BIOL 204	Anatomy and Physiology
HUM BIOL 207	Laboratory Safety
HUM BIOL 210	Prevention and Treatment of Athletic Injuries
MATH 260	Introductory Statistics

Choose one of the following courses:

COMM 133	Fundamentals of Public Address (Or Oral Communication)
ENGLISH 104	Introduction to Literature (Or any English Literature course)

Or one year of any college-level foreign language

Upper-Level Courses

30

HUM BIOL 333	Principles of Sports Physiology
HUM BIOL 350	Exercise Physiology
HUM BIOL 351	Kinesiology
NUT SCI 300	Human Nutrition

Choose one of the following courses:

BIOLOGY 303	Genetics
BIOLOGY 307	Cell Biology
HUM BIOL 310	Human Genetics

Exercise Science Electives (choose 13 credits from the following courses): ³

BIOLOGY 302	Principles of Microbiology
BIOLOGY 304	Genetics Laboratory
BIOLOGY 308	Cell Biology Laboratory

<u>BIOLOGY 340</u>	Comparative Anatomy of Vertebrates
<u>HUM BIOL 403</u>	Human Physiology Laboratory
<u>HUM BIOL 423</u>	Immunology Lab
<u>HUM BIOL 427</u>	Cancer Biology Laboratory
<u>NUT SCI 327</u>	Nutritional Biochemistry

Additional Upper-Level Electives

<u>BIOLOGY 302</u>	Principles of Microbiology
<u>BIOLOGY 303</u>	Genetics
<u>BIOLOGY 304</u>	Genetics Laboratory
<u>BIOLOGY 307</u>	Cell Biology
<u>BIOLOGY 308</u>	Cell Biology Laboratory
<u>BIOLOGY 309</u>	Evolutionary Biology
<u>BIOLOGY 340</u>	Comparative Anatomy of Vertebrates
<u>BIOLOGY 346</u>	Comparative Physiology
<u>BUS ADM 382</u>	Introductory Management
<u>CHEM 300</u>	Bio-Organic Chemistry
<u>CHEM 301</u>	Bio-Organic Chemistry Laboratory
<u>HUM BIOL 310</u>	Human Genetics
<u>HUM BIOL 324</u>	The Biology of Women
<u>HUM BIOL 402</u>	Human Physiology
<u>HUM BIOL 403</u>	Human Physiology Laboratory
<u>HUM BIOL 405</u>	Biotechnology and Ethics
<u>HUM BIOL 413</u>	Neurobiology
<u>HUM BIOL 422</u>	Immunology
<u>HUM BIOL 423</u>	Immunology Lab
<u>HUM BIOL 426</u>	Cancer Biology
<u>HUM BIOL 427</u>	Cancer Biology Laboratory
<u>HUM BIOL 444</u>	Endocrinology
<u>HUM BIOL 495</u>	Research in Human Biology
<u>HUM BIOL 497</u>	Internship

<u>HUM BIOL 498</u>	Independent Study
<u>NUT SCI 302</u>	Ethnic Influences on Nutrition
<u>NUT SCI 327</u>	Nutritional Biochemistry
<u>NUT SCI 350</u>	Life Cycle Nutrition
<u>NUT SCI 427</u>	Advanced Nutrition and Metabolism
<u>PSYCH 300</u>	Research Methods in Psychology
<u>PSYCH 308</u>	Physiological Psychology
<u>PSYCH 435</u>	Abnormal Psychology
<u>PSYCH 450</u>	Health Psychology

Total Credits

60-66

¹ Satisfied with an ACT English score of 32 or higher.

² Students may earn credit for this requirement with current First Aid and CPR certification; see faculty adviser for approval.

³ Select upper-level courses with assistance of a faculty adviser. A maximum of two PSYCH courses can be applied to the major. Minimum of three upper-level laboratory courses.

Cytotechnology Emphasis

- UW-Green Bay is affiliated with three schools of cytotechnology: the Mayo Clinic, the Marshfield Clinic, and UW-Madison.
- Students complete 92 credits at UW-Green Bay, including all general education requirements, and then take an 11-month, 32-credit clinical internship at one of the cooperating institutions.
- After completion of the internship, students will graduate with a degree in Human Biology and be eligible for professional certification.

Supporting Courses

31-34

BIOLOGY 202	Principles of Biology: Cellular and Molecular Processes
CHEM 211 & CHEM 213	Principles of Chemistry I and Principles of Chemistry I Laboratory
CHEM 212 & CHEM 214	Principles of Chemistry II and Principles of Chemistry II Laboratory
ENG COMP 105	Expository Writing ¹
ENGLISH 104	Introduction to Literature
HUM BIOL 204	Anatomy and Physiology
HUM BIOL 207	Laboratory Safety
MATH 104	Elementary Functions: Algebra and Trigonometry
MATH 260	Introductory Statistics

Upper-Level Courses

47

Select one course from three of the four areas:

Genetics

BIOLOGY 303	Genetics
or HUM BIOL 310	Human Genetics

Physiology

HUM BIOL 402	Human Physiology
------------------------------	------------------

Nutrition

NUT SCI 300	Human Nutrition
or NUT SCI 302	Ethnic Influences on Nutrition

Cell Biology

BIOLOGY 302	Principles of Microbiology
or BIOLOGY 307	Cell Biology

Choose 6 credits of the following elective courses: ²

BIOLOGY 302	Principles of Microbiology
BIOLOGY 303	Genetics
BIOLOGY 304	Genetics Laboratory
BIOLOGY 307	Cell Biology
BIOLOGY 308	Cell Biology Laboratory
BIOLOGY 340	Comparative Anatomy of Vertebrates
BIOLOGY 402	Advanced Microbiology
BIOLOGY 407	Molecular Biology
BIOLOGY 408	Molecular Biology Laboratory
BIOLOGY 410	Developmental Biology
BIOLOGY 411	Developmental Biology Laboratory
CHEM 300	Bio-Organic Chemistry

<u>CHEM 301</u>	Bio-Organic Chemistry Laboratory
<u>CHEM 302</u>	Organic Chemistry I
<u>CHEM 303</u>	Organic Chemistry II
<u>CHEM 304</u>	Organic Chemistry Laboratory I
<u>CHEM 305</u>	Organic Chemistry Laboratory II
<u>CHEM 311</u>	Analytical Chemistry
<u>CHEM 330</u>	Biochemistry
<u>CHEM 331</u>	Biochemistry Laboratory
<u>CHEM 407</u>	Molecular Biology
<u>CHEM 408</u>	Molecular Biology Laboratory
<u>HUM BIOL 403</u>	Human Physiology Laboratory
<u>HUM BIOL 413</u>	Neurobiology
<u>HUM BIOL 422</u>	Immunology
<u>HUM BIOL 423</u>	Immunology Lab
<u>HUM BIOL 426</u>	Cancer Biology
<u>HUM BIOL 427</u>	Cancer Biology Laboratory
<u>HUM BIOL 444</u>	Endocrinology
<u>NUT SCI 300</u>	Human Nutrition
Cytotechnology Internship	
<u>HUM BIOL 497</u>	Internship ³

Total Credits

78-81

¹ Satisfied for students with an ACT English score of 32 or higher.

² Additional upper-level courses in Human Biology, Biology and Chemistry will depend upon the student's choice of clinical facility. These courses should be selected with the help of a faculty adviser.

³ Students complete 32 credits of internship total over a 3 semester sequence. In some situations students may choose to pursue clinical training after graduation from UW-Green Bay. In this option is selected, additional upper-level elective credits are required. Consult an adviser for these situations.

Nutritional Sciences/Dietetics Emphasis

Supporting Courses

35-38

BIOLOGY 202	Principles of Biology: Cellular and Molecular Processes
COMM 133	Fundamentals of Public Address
COMM SCI 205	Social Science Statistics
or MATH 260	Introductory Statistics
ENG COMP 105	Expository Writing ¹
HUM BIOL 204	Anatomy and Physiology
HUM BIOL 207	Laboratory Safety
HUM DEV 102	Introduction to Human Development
or PSYCH 102	Introduction to Psychology
NUT SCI 201	Survey of Nutrition Related Professions
NUT SCI 212	Science of Food Preparation

Required Courses

CHEM 211 & CHEM 213	Principles of Chemistry I and Principles of Chemistry I Laboratory
CHEM 212 & CHEM 214	Principles of Chemistry II and Principles of Chemistry II Laboratory

Upper-Level Courses

45-46

BIOLOGY 302	Principles of Microbiology
CHEM 300	Bio-Organic Chemistry
CHEM 301	Bio-Organic Chemistry Laboratory
NUT SCI 300	Human Nutrition
NUT SCI 312	Quantity Food Production and Service
NUT SCI 350	Life Cycle Nutrition
NUT SCI 402	Management in Dietetic Practice
NUT SCI 421	Community Nutrition
NUT SCI 427	Advanced Nutrition and Metabolism
NUT SCI 485	Medical Nutrition Therapy I
NUT SCI 486	Medical Nutrition Therapy II

[NUT SCI 487](#) Nutritional Science Seminar

[BIOLOGY 303](#) Genetics

or [HUM BIOL 310](#) Human Genetics

[HUM BIOL 350](#) Exercise Physiology

or [HUM BIOL 402](#) Human Physiology

Choose one of the following options:

[CHEM 330](#) Biochemistry
& [CHEM 331](#) and Biochemistry Laboratory

or [NUT SCI 327](#) Nutritional Biochemistry

Total Credits

80-84

¹ Satisfied for students with an ACT English score of 32 or higher.

Graduating Senior Survey: 2009, 2010, 2011, 2012 & 2013

	Graduation Year	Human Biology	UWGB Overall
Graduates:	2009	96	1051
	2010	86	1106
	2011	113	1185
	2012	102	1293
	2013	107	1229
Response Rate*	2009-2013	241/504 (48%)	2897/5864 (49%)

* Note: % response misses double-majors who choose to report on their other major.

Table 1: Rating the MAJOR (A = 4, B = 3.0, etc.)	Unit of Analysis	2009-2013						
		N	mean	A	B	C	D	F
Clarity of major requirements	HUMBIO	240	3.0	47%	42%	9%	2%	0
	UWGB	2890	3.5	57%	35%	6%	2%	<1%
Reasonableness of major requirements	HUMBIO	240	3.0	46%	44%	8%	1%	<1%
	UWGB	2885	3.5	55%	37%	6%	1%	<1%
Variety of courses available in your major	HUMBIO	238	3.0	30%	40%	24%	5%	1%
	UWGB	2872	3.0	33%	42%	19%	5%	1%
Frequency of course offerings in your major	HUMBIO	239	2.0	8%	32%	40%	13%	7%
	UWGB	2874	2.7	20%	40%	28%	9%	3%
Times courses were offered	HUMBIO	239	3.0	15%	41%	31%	9%	3%
	UWGB	2823	2.9	26%	42%	24%	6%	2%
Quality of internship, practicum, or field experience	HUMBIO	108	4.0	52%	30%	13%	4%	1%
	UWGB	1625	3.3	57%	27%	10%	4%	2%
Quality of teaching by faculty in your major	HUMBIO	238	4.0	51%	41%	6%	2%	0
	UWGB	2869	3.4	52%	38%	8%	1%	<1%
Knowledge and expertise of the faculty in your major	HUMBIO	240	4.0	71%	26%	3%	<1%	0
	UWGB	2885	3.6	69%	27%	4%	<1%	<1%
Faculty encouragement of your educational goals	HUMBIO	238	4.0	56%	32%	8%	3%	1%
	UWGB	2851	3.4	55%	30%	11%	3%	1%
Overall quality of advising received from the faculty in your major	HUMBIO	236	4.0	51%	24%	14%	6%	5%
	UWGB	2748	3.2	52%	26%	12%	6%	4%
Availability of your major advisor for advising	HUMBIO	233	4.0	53%	27%	14%	3%	3%
	UWGB	2737	3.3	58%	25%	10%	4%	3%
Ability of your advisor to answer university questions	HUMBIO	234	4.0	61%	23%	9%	4%	3%
	UWGB	2699	3.4	63%	22%	9%	4%	2%
Ability of your advisor to answer career questions	HUMBIO	224	3.0	49%	26%	15%	5%	5%
	UWGB	2446	3.2	52%	27%	13%	5%	3%
In-class faculty-student interaction	HUMBIO	238	3.0	46%	31%	9%	14%	0
	UWGB	2795	3.1	43%	30%	13%	12%	<1%
Overall grade for your major (not	HUMBIO	235	3.0	43%	48%	7%	2%	0

Table 1: Rating the MAJOR
(A = 4, B = 3.0, etc.)

	Unit of Analysis	2009-2013						
		N	mean	A	B	C	D	F
an average of the above)	UWGB	2848	3.4	47%	44%	8%	1%	<1%

Table 2. Job related to major while completing degree?

	Unit of Analysis	n	Full-time		Part-time		No
			Paid	Non-paid	Paid	Non-paid	
2009-2013 percent	HUMBIO	240	5%	<1%	35%	5%	54%
	UWGB	2879	14%	1%	33%	5%	47%

Table 3. "If you could start college over"

	Unit of Analysis	n	UW-Green Bay		Another college		No BA degree
			Same major	Different major	Same major	Different major	
2009-2013 percent	HUMBIO	240	72%	9%	13%	5%	1%
	UWGB	2875	69%	12%	12%	5%	1%

Table 4. Plans regarding graduate/professional study

	Unit of Analysis	n	Already admitted	Have applied	Plan to eventually attend	NA/have not applied yet
2009-2013 percent	HUMBIO	215	18%	30%	48%	4%
	UWGB	2206	8%	12%	65%	15%

Table 5. Highest degree planned

	Unit of Analysis	n	Bachelor's	Master's	Specialist's	Professional	Doctoral
2009-2013 percent	HUMBIO	240	13%	35%	3%	23%	26%
	UWGB	2879	30%	51%	1%	5%	13%

Table 6. General Education preparation

Current proficiency vs. Contribution of Gen Ed to current proficiency
(3-pt. scale; 3 = high, 2 = medium, 1 = low)

	Unit of Analysis	Current Proficiency			Gen Ed Contribution		
		n	% High	mean	n	% High	mean
Critical analysis skills.	HUMBIO	227	59%	3.0	223	22%	2.0
	UWGB	2674	64%	2.6	2600	29%	2.1
Problem-solving skills.	HUMBIO	226	70%	3.0	223	22%	2.0
	UWGB	2667	70%	2.7	2590	29%	2.1
Understanding biology and the physical sciences.	HUMBIO	224	82%	3.0	222	47%	2.0
	UWGB	2623	26%	2.0	2478	26%	2.0
Understanding the impact of science and	HUMBIO	223	62%	3.0	222	35%	2.0

Table 6. General Education preparation

Current proficiency vs. Contribution of Gen Ed to current proficiency
(3-pt. scale; 3 = high, 2 = medium, 1 = low)

	Unit of Analysis	Current Proficiency			Gen Ed Contribution		
		n	% High	mean	n	% High	mean
technology.	UWGB	2620	34%	2.2	2489	25%	2.0
Understanding social, political, geographic, and economic structures.	HUMBIO	218	19%	2.0	221	23%	2.0
	UWGB	2629	34%	2.2	2549	28%	2.1
Understanding the impact of social institutions and values.	HUMBIO	221	35%	2.0	225	28%	2.0
	UWGB	2647	50%	2.4	2560	36%	2.2
Understanding the significance of major events in Western civilization.	HUMBIO	221	20%	2.0	223	25%	2.0
	UWGB	2629	33%	2.2	2530	32%	2.1
Understanding the role of the humanities in identifying and clarifying values.	HUMBIO	221	22%	2.0	218	28%	2.0
	UWGB	2639	38%	2.2	2551	33%	2.1
Understanding at least one Fine Art.	HUMBIO	220	29%	2.0	221	30%	2.0
	UWGB	2631	39%	2.2	2520	33%	2.1
Understanding contemporary global issues.	HUMBIO	221	23%	2.0	213	20%	2.0
	UWGB	2633	34%	2.2	2528	25%	2.0
Understanding the causes and effects of stereotyping and racism.	HUMBIO	220	53%	3.0	218	33%	2.0
	UWGB	2644	62%	2.6	2560	38%	2.2
Written communication skills	HUMBIO	224	57%	3.0	224	31%	2.0
	UWGB	2654	66%	2.6	2595	41%	2.3
Public speaking and presentation skills	HUMBIO	223	38%	2.0	222	27%	2.0
	UWGB	2632	44%	2.3	2517	28%	2.0
Computer skills	HUMBIO	222	50%	2.0	212	24%	2.0
	UWGB	2634	55%	2.5	2490	26%	1.9

Table 7. Educational experiences

(5 pt. scale; 5 = strongly agree)

	Unit of Analysis	2009-2013		
		n	Strongly Agree or Agree	mean
Because of my educational experiences at UW-Green Bay, I have learned to view learning as a lifelong process.	HUMBIO	234	89%	4.0
	UWGB	2789	90%	4.4
While at UW-Green Bay, I had frequent interactions with people from different countries or cultural backgrounds than my own.	HUMBIO	233	46%	3.0
	UWGB	2694	44%	3.2
The UW-Green Bay educational experience encourages students to become involved in community affairs.	HUMBIO	232	61%	4.0
	UWGB	2677	55%	3.5
My experiences at UW-Green Bay encouraged me to think creatively and innovatively.	HUMBIO	233	78%	4.0
	UWGB	2785	82%	4.1
My education at UW-Green Bay has given me a "competitive edge" over graduates from other institutions.	HUMBIO	228	61%	4.0
	UWGB	2672	63%	3.7

Table 7. Educational experiences
(5 pt. scale; 5 = strongly agree)

	Unit of Analysis	2009-2013		
		n	Strongly Agree or Agree	mean
UW-Green Bay provides a strong, interdisciplinary, problem-focused education.	HUMBIO	232	69%	4.0
	UWGB	2759	74%	3.9
Students at UW-Green Bay have many opportunities in their classes to apply their learning to real situations.	HUMBIO	233	70%	4.0
	UWGB	2782	71%	3.8
I would recommend UW-Green Bay to a friend, co-worker, or family member.	HUMBIO	232	85%	4.0
	UWGB	2782	83%	4.2
There is a strong commitment to racial harmony on this campus.	HUMBIO	223	60%	4.0
	UWGB	2503	56%	3.7
The faculty and staff of UWGB are committed to gender equity.	HUMBIO	231	75%	4.0
	UWGB	2608	75%	4.0
This institution shows concern for students as individuals.	HUMBIO	233	74%	4.0
	UWGB	2743	74%	3.9
The General Education requirements at UWGB were a valuable component of my education.	HUMBIO	227	41%	3.0
	UWGB	2641	49%	3.3

Table 8. Activities while at UW-Green Bay

	Unit of Analysis	n	Independent study	Student org	Internship	Professional organization	Community service	Worked with a faculty	Study group	Study abroad
2009-2013 percent	HUMBIO	241	30%	69%	49%	22%	78%	30%	74%	13%
	UWGB	2894	26%	47%	55%	21%	57%	22%	53%	14%

Table 9. Rating services and resources
(A = 4, B = 3, etc.)

	Unit of Analysis	2009-2013		
		n	A or B	mean
Library services (hours, staff, facilities)	HUMBIO	214	87%	3.0
	UWGB	2436	91%	3.4
Library collection (books, online databases)	HUMBIO	177	89%	3.0
	UWGB	2372	90%	3.4
Admission Office	HUMBIO	203	89%	3.0
	UWGB	2294	92%	3.4
Financial Aid Office	HUMBIO	183	86%	3.0
	UWGB	2144	87%	3.3
Bursar's Office	HUMBIO	228	89%	4.0
	UWGB	2687	87%	3.3

Table 9. Rating services and resources
(A = 4, B = 3, etc.)

	Unit of Analysis	2009-2013		
		n	A or B	mean
Career Services	HUMBIO	160	84%	3.0
	UWGB	1595	84%	3.3
Academic Advising Office	HUMBIO	198	71%	3.0
	UWGB	2237	76%	3.1
Student Health Services	HUMBIO	147	93%	4.0
	UWGB	1429	88%	3.4
Registrar's Office	HUMBIO	221	93%	4.0
	UWGB	2402	92%	3.5
Writing Center	HUMBIO	106	93%	3.0
	UWGB	995	83%	3.2
University Union	HUMBIO	215	88%	3.0
	UWGB	2333	88%	3.3
Student Life	HUMBIO	140	88%	3.0
	UWGB	1382	83%	3.2
Counseling Center	HUMBIO	52	88%	4.0
	UWGB	554	78%	3.2
Computer Facilities (labs, hardware, software)	HUMBIO	233	98%	4.0
	UWGB	2450	95%	3.5
Computer Services (hours, staff, training)	HUMBIO	212	97%	4.0
	UWGB	2229	92%	3.5
Kress Events Center	HUMBIO	207	98%	4.0
	UWGB	1940	96%	3.7
Dining Services	HUMBIO	200	62%	3.0
	UWGB	1989	56%	2.6
American Intercultural Center	HUMBIO	26	100%	3.5
	UWGB	358	86%	3.3
International Office	HUMBIO	29	97%	3.0
	UWGB	381	80%	3.1
Residence Life	HUMBIO	114	82%	3.0
	UWGB	1159	76%	3.0
Bookstore	HUMBIO	234	86%	3.0
	UWGB	2758	79%	3.1