



The Superior Innovation Initiative Project Proposal

Project Title:	Strengthening the Pre-Health focus through recruitment expansion and program development for successful medical/graduate school matriculation
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Project Plan:

We propose a comprehensive plan to re-invigorate recruitment and program development in the Pre-Health Professional area. The NORTHWEST WISCONSIN SKILLS GAP ANALYSIS¹ completed by our Department of Business and Economics in June 2015 concluded that regional healthcare professionals will experience significant labor shortages in the immediate future. We are uniquely positioned to help solve this problem. Indeed, our campus offers a wide variety of quality courses in biology, chemistry, physics, psychology, and social sciences, recommended by medical and post-baccalaureate health programs (e.g. Physician Assistant, Physical Therapy, Pharmacy) as pre-requisites for admission. (For a list of selected non-science courses for pre-health students offered at UW-S see **Appendix A**). With our most recent departmental hire of a cancer biologist, we have achieved the ‘critical mass’ needed to provide a high-quality pre-health training. We have an active Pre-Med club, unique electives (Neurobiology), and research opportunities of interest to pre-Health students, two major hospitals in the area, and alumni support (including Luke Hafdahl MD, Mayo Clinic), which allows us to provide hospital shadowing opportunities. Further, we are developing additional pre-health undergraduate research opportunities (cancer) and courses across disciplines (psychology, writing) for this target audience. We recognize that most of our students come from a 150 mile radius and would like to continue their training and ultimately build careers within that same area. We have identified two key elements to growing a pre-health focus at UW-S: first, developing a comprehensive recruitment program and second, streamlining matriculation into local health programs.

¹ http://www.nwwib.com/uploads/Skills_Gap_Report_-_Print_Version.pdf. The executive summary and last section specifically talk about a shortage of healthcare professionals (p 45)



We propose the following.

Specific Aim 1: Promote Pre-Health at UW-S

- Reach out to UW-S alumni currently in health fields (for an incomplete list see **Appendix B**) to obtain images, quotes, stories explaining how UW-S helped them get into the health field
- Refine pre-health presentation and promotional materials to highlight unique courses (Neurobiology) and opportunities (cancer research) at UWS as well as alumni success stories
- Face to face recruitment at regional high schools based on the extensive network built over the last decade (see **Appendix C**). Deliver presentations and disseminate promotional materials to AP/CITS science classes
- Utilize electronic media and work with University Marketing to promote pre-health at UW-S

Specific Aim 2: Streamline ease of entry into regional post-secondary health programs (for a list of health programs in Minnesota and Wisconsin see **Appendix D).**

- Develop and foster relationships with local and regional health programs
- Attend advisor trainings offered by health programs
- Work interdisciplinarily within UW-S to ensure appropriate curriculum and co-curricular opportunities required for matriculation into health programs
- Develop advising worksheets with required and recommended courses/co-curricular activities in recommended timelines for individual health programs

We feel that our approach is innovative for a number of reasons. By definition students interested in health careers are academically strong students. These students are more likely to be retained than those struggling to succeed at college. Furthermore, alumni in high paying careers may be more likely to give back, even in greater amounts, to their alma mater. For example, UW-S Biology alumnus Dr. Ann Rock maintains a foundation scholarship in her name. Importantly, by streamlining matriculation into post-secondary programs we are demonstrating a care and concern for our students that goes beyond their time here. In addition to small class sizes and affordable costs, we can tout that we genuinely care about our students.

We estimate that these efforts could bring an additional 20 students per year, 40 students over two years. We will be ready to start once funding becomes available. The University could see increases in pre-Health enrollment by Fall 2016. We request that 20% of the resultant revenue increase be allocated for sustained efforts in this area.

Budget Justification:

We estimate that the outlined recruitment and retention activities such as communicating with UW-S alumni, collaborating with marketing professionals, creating associated promotional materials, traveling to high schools, meeting with graduate and professional health programs, and attending advisor trainings will require three faculty members to invest at least 3 hours/week on average. We only request



compensation for half of this time (1.5 hours/week), which amounts to 360 hours for the duration of the project (4 semesters). To make recruitment more efficient, we plan to also involve our existing pre-Health students in all of the high-school visits and preview days. Further, some course development will need to occur to meet various Pre-Health requirements (i.e. Developmental Psychology, writing), for which we have allotted two faculty members 2 hrs/wk across two semesters. We have provided an estimate of cost for production of promotional materials. As scientists, we aren't sure about the exact amount of electronic media expenses, which could probably come from the University Marketing funding.

Project Timeline:

(Prepare a timeline for project not to exceed 2015-2017 time frame)

Be SMART about the Project Plan and Project Timeline.

Specific: *Your objectives must be clear so that if someone reads them, s/he can interpret them.*

Measurable: *Is the objective measurable?*

Achievable: *Is the project objective reasonably achievable?*

Realistic: *Are the available resources sufficient to achieve the objective(s)?*

Time-Specific: *Specify when an objective will be attained (date/timeline). Set specific milestone dates.*

November 2015- May 2016:

- Reach out to alumni currently in health fields
- Develop new pre-health presentations, fact sheets and other promotional materials
- Reach out to regional post-secondary health programs
- Conduct high-school visits by the faculty and existing pre-med students
- Attend advisor trainings offered by health programs

September 2016-December 2017:

- Conduct high-school visits by the faculty and existing pre-med students
- Develop and foster relationships with local and regional health programs
- Attend advisor trainings offered by health programs
- Work interdisciplinarily within UW-S to ensure appropriate curriculum and co-curricular opportunities required for matriculation into health programs
- Develop advising worksheets with required and recommended courses/co-curricular activities in recommended timelines for individual health programs.



Proposed Budget:

Item Description (<i>person or item</i>)		“Hours and Rate” (if labor) or “Purchase	Line Total
1	3 faculty x 1.5 hrs/wk x 15 weeks/s x 4 semesters	360 hours x \$50/hr	\$ 18,000
2	2 students x 1 hours/wk x 15 weeks/s x 4 sem.	120 hours x \$10/hr	\$ 1,200
3	Pre-Health materials publication costs		\$ 3,000
4	Promotional mementos for guidance & students		\$ 3,000
5	Travel to Twin Cities (recruit/advisor training.)		\$ 2,000
6	Course development (2 faculty x 2 hrs x 2 sem.)	120 hours x \$50/hr	\$ 6,000
7	(add lines as necessary)		\$
		Total Request:	\$ 33,200
1	Matching Funds		\$
	(add lines as necessary)		\$
		Total Matching	\$

Check which of the following might apply (check all that apply):

- This project requires System review and approval.
- This project requires campus governance review and approval.
- This project requires departmental review and approval.

Mary Balcer _____

Print Name

Signature

Submit project applications by 4:30 p.m. on October 1, 2015 to provost@uwsuper.edu

Appendix A: Selected non-science courses for Pre-med/Pre-Health students offered at UW-Superior.

ANTH 325 Food, Culture, and Society, 3.00 cr.-- pays attention to issues of public health, food access, fat, obesogenic environments. Last year's Academic Service-Learning project had to do with student access to healthy food. There is a regular AS-L project for that class (every other fall), which would almost certainly involve something health-related.

Catalog description: An examination of food's role and uses in distinct communities. Topics may include gender, the body, ethnicity, class, belonging, meaning, culture change, ideology, food movements, and food and inequality.

ART 103 Three-Dimensional Design, 3.00 cr. (for Pre-Dentistry programs)

Catalog description: Problem solving in three-dimensional form.

BUS 371 – Consumer behavior, 3.00 cr. – is a marketing course but could be used to understand how marketing impacts our decisions to lead a certain lifestyle.

Catalog description: Application of concepts from the disciplines of psychology, sociology, anthropology, and economics that affect purchase decisions of individuals. Current literature in consumer psychology is explored in its relation to marketing strategy. Prerequisites: BUS 370

ECON 235 – Economics in Society, 3.00 cr. – general education course, no prereqs -- examples of how economic policies can encourage healthier behaviors (e.g., cigarette taxes to discourage smoking, or insurance discounts for gym memberships, or pharmaceutical companies pricing schemes)

Catalog description: General introductory course highlighting economic and social issues facing society. In addition to covering traditional issues such as markets and prices, government economic management and international trade, it also introduces economic content into the analysis of problems such as poverty and discrimination, pollution control, and provision of government services. Primarily oriented toward students outside business and economics, including social work, sociology, history, political science, education and the natural sciences.

ECON 435 – Development Economics, 3.00 cr., covers nutrition and healthcare (and lack thereof) in developing countries, as well as part of living standards metrics.

Catalog description: Nature and process of economic development within historical and international perspectives. Includes alternative theories and strategies of economic development; recent changes and trends in the world economy, and implications for development at the national level; selected case studies and applications.

Prerequisites: ECON 235 or ECON 250/251

ECON 335 Ecological economics, 3.00 cr. – will be introduced by Jerry Hembd next spring.

Catalog description: Sustainability and sustainable development examined within an ecological economics context. Builds on core economic concepts particularly market failure and addresses issues of sustainable scale, just distribution, and efficient allocation. Emphasizes the relationship between socioeconomic systems and the biological/physical world. Explores the policy challenges of sustainability in a variety of contexts including climate change, energy use, natural resource use, ecosystem services, food security, technological change and property rights.

Prerequisites: ECON 235 or ECON 250/251

ECON 362 – Public finance, 3.00 cr. – covers health insurance premiums and the pros and cons of the recent Healthcare laws.

Catalog description: Theoretical foundation and institutional role of government in the economy. Includes theory of social goods and public decisions, the budgeting process, and the impact of taxation and expenditure on the allocation of resources, distribution of income, and economic stability.

Prerequisites: ECON 235 or ECON 250/251

PHIL-211 Contemporary Moral Problems, 3.00 cr.

Catalog description: Are all acts inherently selfish? Should everyone follow the same moral laws? Do we need God to tell us how to behave? Why should we be good and what does that even mean? Should all living creatures be treated equally? In this course we will entertain questions like these as we apply moral theories to a selection of contemporary issues (for example, human rights, environmental ethics, the global sex trade, the death penalty). A key concern will be our ethical responsibilities in the diverse contemporary global theater. General Education Attributes: HHE World Lang, Culture, Philos

PHIL (GST)-459 Philosophy of Pregnancy, Birth, and Mothering, 3.00 cr.

Catalog description: This course will explore pregnancy, childbirth, and mothering from two perspectives—the embodied experience of women and its political-social context. We will consider how women's firsthand experiences of motherhood are responses to a broader social milieu. This approach will enable us to think about a variety of philosophical themes and questions with regard to our topic including: philosophical method, embodiment, sex and gender, the origins of ethics, moral obligation, virtue, moral luck, intersubjectivity, and oppression. Cross-listed as PHIL/GST 459. General Education Attributes: DIV Diversity

PHIL-250 Philosophy of Children, 3.00 cr. (particularly suitable for pre-pediatrics students)

Catalog description: In this course, we will both cultivate our wonder about children, and their wonder about the world. This will be achieved by first considering children and childhood through a philosophical lens, and second, by exploring the manner in which children themselves philosophize. Our ultimate purpose will be to take this knowledge into local elementary classrooms and to engage children in philosophical thought, encouraging their inherent sense of wonder, and cultivating an appreciation for their unique perspectives on life. Prerequisite: completion of PHIL 151, or PHIL 211, or consent of instructor.

POLS 420 Biotechnology Policy & Ethics, 3.00 cr.

Catalog description: Human reproductive cloning, genetic modification and alteration, personalized genomics, synthetic biology...these are only some of the areas of inquiry in the life sciences that have attracted public interest for their societal, ethical and policy implications. This course examines the political and ethical implications of selected areas of biotechnology that are now a part of the contemporary public debate with particular emphasis on the impact of these technologies on women. Some of the principles examined are legalistic, while others require ethical reasoning evaluating concepts such as human nature, personhood and autonomy. Key questions considered in this course include: Who benefits from these biotechnologies? Who are the primary actors engaged in policy creation? How can emerging technologies best be managed to balance individual freedom and scientific advancement with adequate protections for vulnerable classes? Finally, how do these technologies fit into our belief systems regarding the desirability of emerging biotechnologies in our individual lives and for society more generally?

PSYC 101 Introduction To Psychology 3.00

Catalog description: Introduction to the scientific study of psychology covering major areas of study within the discipline, including biological bases of behavior, learning and conditioning, memory and cognition, motivation and emotion, social and cultural influences on behavior and attitudes, personality, health psychology, and mental illness. Select sections qualify as an Academic Service-Learning Course (see Academic Service-Learning for more details).

PSYC 227 Interpersonal Skills 3.00

Catalog description: Introduction to basic interpersonal helping skills within a problem-solving framework. Focus on interpersonal communication and development of elementary interviewing skills, the conscious use of self, working with uncooperative or resistant subjects and cross-cultural differences in the helping process. Exercises, role playing and simulations are used to enhance learning. Designed to accommodate non-Social Work majors in related disciplines. Cross-listed, SO W/PSYC 227.

PSYC 320 Health Psychology 3.00

Catalog description: Study of the impact of biological, physiological, social, and cultural factors on health and illness. Topics include physiological systems of the body, mind-body interactions, stress and coping, lifestyle and health, psychoneuroimmunology, pain, cross-cultural perspectives on health and illness, and management of chronic and terminal illness. Meets the Adjustment and Well-being requirement for the Psychology major.

Prerequisites: PSYC 101.

PSYC 350 Biological Psychology 3.00

Catalog description: Study of the biological systems which underlie human behavior. Covers neural structure and physiology, genetic coding and hormones. Specific topics of interest to psychology are included, such as mental illness, the sleep-waking cycle, sensation, language, memory, stress, and sexuality. Meets the Biological Aspects of Behavior requirement for the Psychology major.

Prerequisites: PSYC 101.

PSYC 353 Psychopharmacology 3.00

Catalog description: Students will examine how drugs influence the brain and behavior. Specifically, the course will discuss basic pharmacology (mechanisms of drug action in the brain) as well as overt behavioral and psychological changes rendered by the drug. Both legal (e.g. Prozac, alcohol, caffeine, and nicotine) and illegal (e.g. marijuana, cocaine, methamphetamines and LSD) drugs will be discussed. Issues related to addiction and treatment will also be examined. Meets the Biological Aspects of Behavior requirement for the Psychology major.

Prerequisites: PSYC 101.

PSYC 372 Child and Adolescent Development 3.00

Catalog description: Surveys the science and application of child and adolescent development, focusing on the physical, cognitive, and social changes that occur from conception through adolescence. The course covers methods and theory, and may highlight moral development, cultural differences, genetics, aggression, media and thought processes as they relate to various age groups. Meets the Individual, Social and Developmental requirement for the Psychology major. Qualifies as an Academic Service Learning course (see Academic Service-Learning for more details).

Prerequisites: PSYC 101.

PSYC 373 Adulthood and Aging 3.00

Catalog description: Examines the social, cognitive, and physical changes that occur through adulthood and older adulthood. Longitudinal and life-span approaches to development are highlighted along with how a changing life expectancy and demographic population are affecting research and quality of life in the population. Meets the Individual, Social and Developmental requirement for the Psychology major. Qualifies as an Academic Service-Learning course (see Academic Service-Learning for more details).

Prerequisites: PSYC 101.

Appendix B: Incomplete List of Natural Science Students who have gone on to Post Secondary Health Fields and other professional experiences

Student Name	Program
1. Adams, Katelyn	Medical School
2. Adolfson, Troy	Medical School
3. Agbi, Aduratomi	Masters in Public Health
4. Agunsoye, Maria	Pharmacy
5. Bailey, Brook	Pharmacy
6. Collins (Orr), Katie	Post Baccalaureate Nursing
7. Culy, Dan	Medical School
8. Forstrom, Sarah	Physical Therapy
9. Gondik, Allison	Masters of Public Health
10. Hafdahl, Luke	Medical School
11. Hoel, Megan	Osteopathic Medicine
12. Johnson, Mikkayla	Occupational Therapy
13. Kennedy, Colton	Medical School
14. Lao, Maria	Medical School
15. Lawler, Ethan	Dental School
16. Lindahl, Stephanie	Veterinary/Animal Health Technology
17. Mattila, Teresa	Veterinary School
18. Minor, Megan	Veterinary School
19. Obeya, Eta	Medical School
20. Ohaju, Jensine	Medical School
21. Paulson, Laura	Medical School
22. Pesek, Michelle	Medical School
23. Peterson, Jordan	Podiatry School
24. Phelps, Joel	Osteopathic Medicine
25. Radloff, Shanna	Physician Assistant
26. Reijo, Matthew	Chiropractic
27. Stepan, Peggy	Dental School
28. Stark, Tasha	Physician Assistant
29. Surbaugh, Aaron	Osteopathic Medicine
30. Swan, Jonas	Osteopathic Medicine
31. VanDamme, Taylor	Post Baccalaureate Nursing
32. VanDamme, Trent	Pharmacy
33. Voss, Tricia	Pharmacy
34. Wheeler, Mathew	Medical School

Appendix C: Recruitment Network / Pre-Health PP Presentation

A network of high-school and community college guidance counselors and chemistry teachers developed over the past decade by Dr. Waxman will be utilized and widened in the present project. The following institutions were engaged:

- **Northwest Wisconsin:** Superior HS, Northwestern HS, Ashland HS, Hayward HS, Rice Lake HS, Grantsburg HS, UW-Barron County
- **Northeast Minnesota:** Duluth HS's (Denfeld, East, Marshall, Harbor City International); Lake Superior College; Proctor HS; Esko HS; Cloquet HS; Hermantown HS; Hibbing HS; Hibbing Community College; Virginia HS; Hinckley HS; Two Harbors HS
- **Twin Cities:** White Bear Lake HS; North Branch HS; Shakopee HS; Prior Lake – Savage HS; Mahtomedi HS; Apple Valley HS; Forest Lake HS, St. Louis Park HS

In his recruitment efforts, Dr. Schmude will concentrate on the **Northern Wisconsin and Northern Michigan**, areas that are complementary with regards to the listing above.

Our **pre-health recruitment PP presentation** will be based on the pre-med PP presentation developed by two of us (MAD and MW) in March 2015 for a group of visiting minority students at the Multicultural College Awareness Day. According to the exiting survey, this talk (delivered by MW) was voted by the students as the most interesting, which confirms that the interest to pre-med/pre-health studies among the area high-school students is quite significant.

Appendix D: Medical and Health Professional Programs in Wisconsin and Minnesota

Medical Schools (MD or DO) in MN and WI

Mayo Clinic, Rochester, MN
Medical College of Wisconsin, Milwaukee, WI
University of Minnesota, Duluth
University of Minnesota, Minneapolis
University of Wisconsin, Madison, WI

Physician Assistant (PA) Programs in MN and WI

Augsburg College, Minneapolis, MN
Bethel University, St. Paul, MN
Carroll University, Waukesha, WI
College of St. Scholastica, Duluth, MN
Concordia University - Wisconsin, Mequon, WI
Marquette University, Milwaukee, WI
St. Catherine University, St. Paul, MN
University of Wisconsin, LaCrosse
University of Wisconsin, Madison

Pharmacy (PharmD) Programs in MN and WI

Concordia University - Wisconsin, Mequon, WI
University of Minnesota, Duluth
University of Minnesota, Minneapolis
University of Wisconsin, Madison

Dental (DDS) Programs

Marquette University, Milwaukee, WI
University of Minnesota, Minneapolis

Veterinary Medicine (DVM) Programs

University of Minnesota, Minneapolis
University of Wisconsin, Madison

Physical Therapy (DPT) Programs

Carroll University, Waukesha, WI
College of St. Scholastica, Duluth, MN
Concordia University - Wisconsin, Mequon, WI
Marquette University, Milwaukee, WI
Mayo School of Health Sciences, Rochester, MN
St. Catherine University, St. Paul, MN
University of Minnesota, Minneapolis
University of Wisconsin, Madison
University of Wisconsin, Milwaukee

Occupational Therapy (Master's or OTD) Programs

College of St. Scholastica, Duluth, MN
Concordia University - Wisconsin, Mequon, WI

Mount Mary College, Milwaukee, WI
St. Catherine University, St. Paul, MN
University of Minnesota, Minneapolis
University of Minnesota, Rochester
University of Wisconsin, LaCrosse
University of Wisconsin, Madison
University of Wisconsin, Milwaukee

Nurse Practitioner (NP) Programs

Alverno College, Milwaukee, WI
College of St. Scholastica, Duluth, MN
Concordia University - Wisconsin, Mequon, WI
Marian University of Fond du Lac, Fond du Lac, WI
Marquette University, Milwaukee, WI
Metropolitan State University, St. Paul, MN
Minnesota State University - Mankato, MN
St. Catherine University, St. Paul, MN
University of Minnesota, Minneapolis
University of Phoenix
University of Wisconsin, Eau Claire
University of Wisconsin, Madison
University of Wisconsin, Milwaukee
University of Wisconsin, Oshkosh
Walden University, Minneapolis, MN
Winona State University, Winona, MN
Viterbo University, LaCrosse, WI