



THE UNIVERSITY
of
WISCONSIN
MADISON

October 1, 2009

Provost Paul DeLuca
150 Bascom Hall
Campus

Dear Provost DeLuca,

On behalf of the College of Agricultural and Life Sciences, I am pleased to submit the attached proposal entitled **Engaging Undergraduates in Biology via Health and Nutrition** for Phase 1 funding via the Madison Initiative for Undergraduates. This proposal meets the request for ideas that “generate faculty and instructional support ... to offer the courses, majors, and experiences students need” and those that “expand best practices and innovation in teaching and learning, curricular design, and student services in order to enhance student outcomes.”

Nutritional Sciences 132 is one of the largest courses on campus, with an annual enrollment of some 2000 students, and yet is taught with the support of just one half-time TA. Given the rapid growth of the department’s professional program in Dietetics, it has not been possible to commit additional teaching resources to this service course that enrolls over 80% of its students from outside of CALS and 97% of its students from outside the department. The college and the department remain dedicated to providing this popular and needed biological sciences instruction to undergraduates outside of CALS, but the student experience in the course would benefit greatly from additional TA support.

Sincerely,

Molly Jahn
Dean and Director

ENGAGING UNDERGRADUATES IN BIOLOGY VIA HEALTH AND NUTRITION

A MADISON INITIATIVE FOR UNDERGRADUATES PROPOSAL

Submitted by the Department of Nutritional Sciences

Susan Nitzke, PhD, RD, Chair

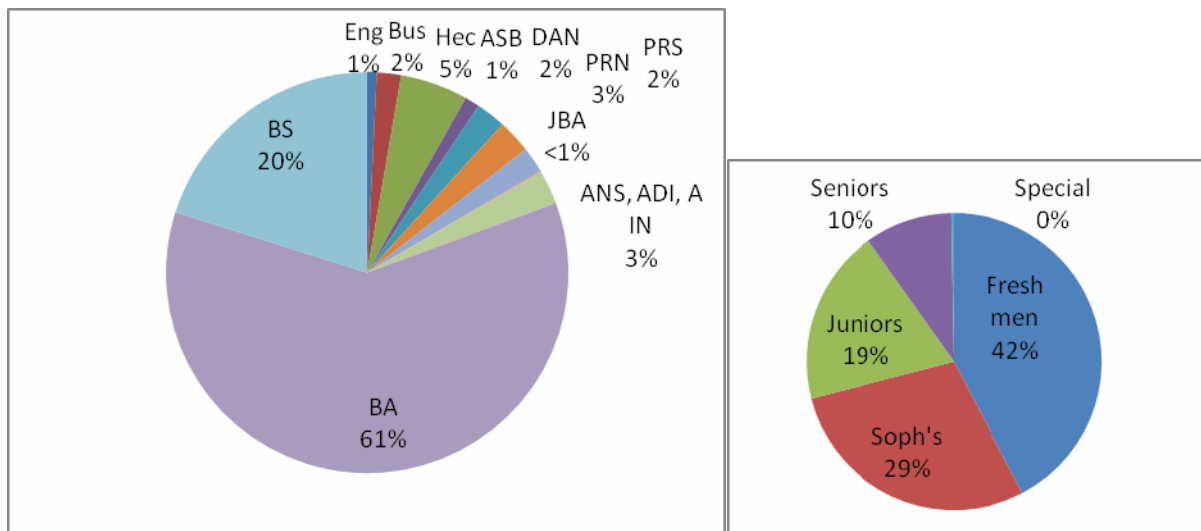
September 28, 2009

Problem Identification and Intended Impact

The MIU campaign has identified improvements in biology education, especially introductory biology, as an area needing attention on the UW-Madison campus. This proposal addresses this need by requesting funding to support three ½-time Teaching Assistantships that would be devoted to upgrading and expanding one of the most popular undergraduate science courses on campus, namely **Nutritional Sciences 132**, “Nutrition Today.”

As demonstrated by the attention and interest in this year’s *Go Big Read* book, Michael Pollan’s *In Defense of Food: An Eater’s Manifesto*, interest in the subject matter of NS 132 is at a very high level and the issues of food production/consumption are predicted to continue demanding that consumers have a more sophisticated knowledge of basic nutrition principles than has been needed in previous generations or even just a few years ago.

NS 132 is currently taught in both the spring and fall semesters. This course has a usual enrollment of between 800 and 1200 students per semester, with approximately 200 of those enrolled in an online section. NS 132 was the 6th largest course on the UW campus in fall of 2008 with 912 students. Following is a breakdown showing the majors and class level of the 986 students enrolled in NS 132 this current fall 09-10 semester. The charts show that most of the students are freshmen and sophomores and that very few are majoring in nutritional sciences (ANS, ADI, AIN) or CALS.



Currently, there is a tremendous need for additional resources to expand this course so that we may improve the teaching/learning activities it offers to the students. The lectures, discussion sections, grading, and management of this course are handled by one part-time instructor and one ½-time

Teaching Assistant. The TA attends all the lectures, leads an optional one hour discussion section once a week for 50 – 125 students, offers review sessions before each exam, proctors exams, schedules and monitors make-up exams, conducts office hours, and assists with grading. The instructor and TA have managed to make this an interesting and informative class with generally very positive evaluations, but it is clear that the teaching burden is extraordinarily high and possibly unsustainable as students' interest in nutrition continues to grow.

Because of high demand for all the undergraduate courses in Nutritional Sciences, the Department's instructional resources are stretched very thin. We have a burgeoning professional degree program in dietetics and a large number of undergraduates studying in the nutritional sciences degree program for students who are more interested in medical school, veterinary school, physical therapy, graduate nutrition programs, etc. Our department continues to offer NS 132 mainly as a service to the whole UW-Madison campus, with very little reward to the Department for the time and effort that could be devoted to the courses that are required for our majors. We have been willing to continue supporting this course, in hopes that when more TA resources came available our obvious need for additional resources would be addressed.

We have identified the following priorities for expansion and enhancement of NS 132, given the prospects of additional TAs as requested in this proposal:

1) updating the distance learning section

Lectures are currently delivered via streaming audio. Graphics are separate files that students have to click on. Conversion to a software application that links visuals with sound would facilitate seamless delivery of the lectures without delays and distractions that are involved in switching between files. If the campus provides support for additional TAs, that would allow us to commit the many hours of work needed to update and convert and then maintain the course files. If the campus agrees to provide this support, the Department will commit to allocating sufficient funds to pay for the necessary services from DoIT and update the computer equipment for the course instructors.

2) offering more targeted and engaging learner-centered activities during discussion sections
With additional TAs, we could offer discussion sections that included exercises and labs that would make nutrition principles more real for the students. For example, the course currently has a nutritional analysis assignment, but with the needed guidance of TAs we could include diet planning and behavior change components in this exercise. The course could also offer more graded assignments than we can manage now, giving us something other than multiple choice exams for evaluation.

3) offering a specialized "lab" geared to the needs of students who are specifically interested in global health issues. This version of the course would accommodate the needs of students who are potential candidates for international or global health certificates.

Evaluation

The success of these course updates, enrichment activities, and specialized lab options would be monitored and evaluated by adding targeted questions to the existing course evaluation process and by annual debriefing interviews with the course instructor and TAs. This would provide assurances that the course continues to allocate these resources to optimally serve the needs of the students and the goals of the Madison Initiative.

Impact on student access and undergraduate teaching

With the additional TA support requested in this proposal, we could “expand and improve our ability to enhance student learning through high impact practices” by offering a course that helps student understand basic principles of biology and related issues. Our teaching tools would be expanded to help make the information more personally meaningful and prepare them for future roles as consumers, parents, employers, policy makers, health professionals, etc. Students who are interested in global health issues would gain more worthwhile preparation for future applications in overseas settings where they are likely to encounter nutrition issues much different from those in the U.S.

Recruitment and Cross-college partnerships

Our Interdepartmental Graduate Program in Nutritional Sciences (IGPNS) has 30-40 graduate students and 44 faculty members from 29 Departments and programs across the campus. Our Department also administers an NIH-funded training grant. We typically have more than 50 domestic applications and bring 6-10 students into our program each year, mostly as fully supported PhD candidates with half-time appointments as RAs or TAs. Entering graduate students who spend their first year of their graduate studies as a TA in a basic nutrition course have told us that they appreciate the opportunity to “rotate” through 2-4 potential mentors’ laboratories before they are “matched” with a specific professor. We have adequate space in our building for the TAs to have a small “office” where they can meet with students and handle course materials in a secure setting.

Budget

Requested Amount

2 half time TA’s Regular per Academic year \$25,788

1 half time TA Senior per Academic year \$15,477

TA Tuition \$24,000

\$66,266

Department Support

3 Computers and support \$3,000

DoIT and Other IT Upgrade charge \$2,000

Building space

Administrative Support