

## Education and Student Affairs Committee

Board of Regents, State of Iowa

**Subject:** Proposal for a New Bachelor of Science and Master of Science Degree in Diet and Exercise at Iowa State University

**Prepared by:** Anthony G. Girardi *AGN*

**Date Submitted:** September 1, 2004

### Recommended Action:

Refer Iowa State University's proposal to establish a new bachelor of science and master of science program in Diet and Exercise to the Board Office and the Interinstitutional Committee on Educational Coordination (ICEC) for review and recommendation:

### Executive Summary:

Iowa State University is requesting approval of a new program in Diet and Exercise leading to B.S. and M.S. degrees. Enrollment in the respective degree levels would be concurrent and both the B.S. and M.S. degrees would be awarded jointly upon program completion. The program would be offered jointly by the Department of Food Science and Human Nutrition (FSHN) in the College of Family and Consumer Sciences and the Department of Health and Human Performance in the College of Education.

### Background:

**Proposed program characteristics**      The objective of this proposal is to establish an education and training program in diet and exercise science. A B.S. and M.S. program in Diet and Exercise will be established to offer students advanced study in the theory and application of nutrition and exercise science. Neither degree would be awarded alone, but conjointly at the completion.

**New program would respond to interest and need**      The university reports that a significant number of its students have expressed interest in pursuing double majors/minors in nutrition and exercise science. The university also suggests that the need for the program and opportunities for program graduates stem from a growing societal demand for health clubs, wellness centers, public and private health clinics, community health programs, and preventive medicine programs.

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**Link to Strategic**

**Plan:**

The adoption of new programs assists the Board in advancing the following elements of its 2004-2009 Strategic Plan:

- Priority 1.0 Ensure high-quality educational opportunities for students.
- Objective 1.3 Provide educational experiences that enhance the knowledge, abilities, opportunities, and personal incomes of individual Iowans through educational attainment.

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**Regent Program  
Review Questions**

The University's responses to the Regent New Program Review Questions are attached

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## Regents Program Review Questions for New Majors

Name of the degree: BS and MS

Name of the major: Diet and Exercise

### 1. Need

- a. How will this proposed program further the educational and curriculum needs of the students in this discipline?

The objective of this proposal is to establish an education and training program in diet and exercise science. A BS and MS program in *Diet and Exercise* will be established to offer students advanced study in the theory and application of nutrition and exercise science. This degree program involves admission to the program during the junior year of academic study, followed by concurrent enrollment in the BS and MS program with the BS and MS degrees jointly awarded at the completion of the program. This program is unique and truly an interdisciplinary program in that knowledge, skill, and competency cannot be achieved in either content area [Food Science and Human Nutrition (FSHN) or Health and Human Performance (HHP)] unless the complete program, including both the BS and MS degree, is completed in its entirety. This program will serve as an innovative model for other programs at ISU pursuing a truly interdisciplinary paradigm.

- This program allows students in the dietetics and exercise science programs to:
  1. pursue dual interests concurrently, which reinforces the learning and understanding of how the disciplines/topics are inter-related.
  2. acquire an advanced degree with expertise in two different, yet complementary, disciplines.
  3. potentially complete an advanced degree in a shorter time frame (5 years).
  4. potentially complete an advanced degree with fewer financial liabilities due to the shorter time frame.
  5. acquire skills and competency in both dietetics and exercise science, which enhances professional marketability.

- b. How does it further the educational and curriculum needs of other units in the college or university?

NA

### 2. Duplication and Collaboration

- a. What programs in this field of study are available in other colleges and universities in Iowa?

- University of Iowa (UI)- Master in Public Health (MPH) degree with a Nutrition and Exercise Focus
- University of Northern Iowa (UNI) – Master's degree (MA) in Health Promotion/Fitness Management Emphasis

- b. With what representatives of these programs has there been consultation in developing this proposal? Provide a summary of the responses of each institution consulted.

Both the UI and UNI have been consulted in the development of this proposal. Both universities have identified that this program provides an educational opportunity for students that is not currently provided at their institutions. Both the UI and UNI have provided letters of support for this program.

- c. In what ways is this proposed program similar to those mentioned in 2a? In what ways is it different or does it have a different emphasis?

- The MPH offered by the UI has a goal of understanding nutrition and exercise applied to clinical research studies or community health promotion. The curriculum includes a core of public health and epidemiology courses with limited coursework in applied nutrition and exercise physiology. The UI does not offer a nutrition or dietetics degree, thus there are limited course offerings in nutrition. The program is designed for practitioners who want to do translational research involving exercise and diet in the public health setting. The MPH program requires 42 credit hours for the advanced degree. The program does not provide the academic preparation for certification as a Registered Dietitian nor American College of Sports Medicine (ACSM) certification.
- The MA degree offered by the UNI has a goal of education/awareness in health promotion. The curriculum consists of 30-33 credit hours. This program does not offer nutrition or exercise physiology coursework at the graduate level. Since UNI no longer offers a nutrition or dietetics degree there are limited course offerings in nutrition. The program does not provide the academic preparation for certification as a Registered Dietitian nor ACSM certification.
- In contrast, the program proposed (BS and MS) at ISU has a goal of preparing students for applied practice opportunities such as cardiac rehabilitation programs, health clubs, wellness centers, public and private clinics, community health programming, preventive medicine programs or related programs. The curriculum includes substantial coursework in theory and application of nutrition and exercise physiology. The combined BS and MS degree requires 158 credit hours of which 38 are at the graduate level. In addition, the proposed BS and MS program provides academic requirements to become a Registered Dietitian and ACSM certification as a Health Fitness Instructor.

- d. How does the proposed program supplement the current programs available?

Currently, there are no programs within the state that combine the disciplines of dietetics and exercise science in an applied practice manner. The magnitude of chronic disease in society, which is related to diet and exercise, necessitates the preparation of future professionals with expertise in both areas. This proposal is extremely efficient in merging the available resources in FSHN and HHP to create an opportunity for students to study in two distinctly different, yet intricately inter-related areas of discipline. It also efficient from the student side, in that it may be possible to complete both program (concluding in the award of a BS and MS) in 5 years, depending on the thesis project chosen by the student.

- e. Has the possibility of some kind of interinstitutional program or other cooperative effort been explored? What are the results of this study?

The UI and ISU have discussed a collaborative effort to offer a MPH with a Nutrition Focus. With this program the UI would provide the expertise in nutrition epidemiology, while ISU would provide expertise in nutrition science. This proposal is still being explored utilizing the ICN for the delivery of collaborative coursework. This coursework could also be used in the proposed BS and MS program as an elective if the student desired.

- f. Please list the Iowa institutions in which articulation agreements are being developed for the proposed program.

NA

- g. Please provide the Classification of Instructional Program (CIP) code for the proposed program.

31.0505 and 51.2702

3. Please estimate the enrollment in this program for the next five years as follows:\*

- a. Undergraduate

Majors	<u>5</u>	<u>10</u>	<u>15</u>	<u>15</u>	<u>15</u>
Non-Majors	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

- b. Graduate

Majors	<u>0</u>	<u>5</u>	<u>15</u>	<u>30</u>	<u>30</u>
Non-Majors	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

\*Enrollment estimates are maximum enrollment anticipated.

1. On what basis were these estimates made?

Maximum enrollment in the program will be limited to 15 annually. Students will be classified as undergraduate students after admission to the program for the remainder of their junior year, and if they choose, during the summer session following their junior year. Students will be classified as graduate students in the fall of their senior year (4<sup>th</sup> year) to coincide with the commencement of their graduate coursework. Thus, there will be no more than fifteen undergraduate students annually since they become graduate students the academic year after acceptance into the program. It is anticipated that the graduate students will complete their studies in 2 years, thus the total number of graduate students after the fourth year of the program will average 30 per year.

2. What are the anticipated sources of these students?

- Students currently enrolled in dietetics or exercise science at ISU
- Incoming freshmen
- Transfer students

4. Please provide any available data or information on employment opportunities available to graduates of this program in Iowa and nationally.

Graduates of this program are unique in that they are eligible for: 1. accreditation as Health Fitness Instructor (ACSM) and; 2. a dietetic internship to become a Registered Dietitian

(ADA). The Bureau of Labor Statistics projects that employment of dietitians and nutritionists will grow 15.2% between 2000 and 2010 as a result of increased emphasis on disease prevention through dietary habits; employment of fitness workers will grow 21-35% between during this same time. Employers of RDs were surveyed informally regarding employment opportunities for this major:

- 73% reported they would be very or somewhat interested in hiring someone with this expertise
- 80% reported that the combined expertise would be very or somewhat important to professional practice

Note: Survey did not include employers in exercise/fitness. Respondents n=15.

5. Are there accreditation standards for this program?
  1. What is the accreditation organization?

American Dietetics Association (ADA): Students are eligible to apply for a dietetic internship and then sit for the national registration exam to become a Registered Dietitian.

In addition to meeting ADA competency standards, having completed a bachelor's degree in a health-related field graduates of the program will be eligible to take the written/practical exam for certification as a Health Fitness Instructor offered by the American College of Sports Medicine.

2. What accreditation timetable is anticipated?

This program meets the didactic requirements for dietetics education, thus will be accredited by the American Dietetics Association. Accreditation is granted for a 10-year period including a 5-year review and 10-year site visit. A copy of the *Knowledge, Skills, and Competencies for Entry-Level Dietitian Education Programs* as it appears in the Accreditation Manual of the American Dietetics Association appears on pages 8, 9, and 10.

6. Does the proposed program meet minimal national standards for the program, e.g., Council of Graduate Schools or other such bodies?

This program meets the Council of Graduate Schools standards.

7. Please report any reactions of the Iowa Coordinating Council for Post-High School Education. List date that the program information was submitted to the Council.

Submitted on June 11, 2004; no concerns expressed.

7. How does this program relate to the college's/university's strategic plan?

The three goals of the ISU strategic plan are to enhance learning, promote discovery and innovation, and engage key constituents through synergistic sharing and partnership of knowledge. Common to all three of the goals is to encourage and support interdisciplinary collaboration and to improve student learning by curriculum development and instructional innovation. This proposal seeks to contribute to these goals by establishing a curricular collaboration between FSHN and HHP and to link the undergraduate experience with the graduate program. This will offer students' opportunities to explore the interactions between diet and exercise in helping humans maintain healthful lives.

The College of Family and Consumer Sciences mission is to: 1. value **creativity, collaboration**, nurturance, and professionalism; 2. improve the quality of life for all by **linking science with practice**; and 3. **prepare professionals** to provide leadership in addressing issue of importance to families and consumers by means of education, research, and outreach programs. This proposal has direct linkage to all 3 statements.

**Creative**

1. It proposes a new structure/option for the BS/MS opportunities at ISU.
2. It is potentially the only program in the nation, which combines the study of nutrition and exercise into one program and results in an advanced degree.

**Collaborative**

It epitomizes collaboration as it merges two undergraduate degree options between two departments and three colleges.

**Linking Science with Practice**

Chronic diseases (cardiovascular disease, cancer, type 2 diabetes, overweight) have etiological factors related to both nutrition and physical activity. Thus, it makes sense to provide the opportunity for students to study and apply the intricate interaction between the two subject areas.

**Preparing Professionals**

To effectively address the majority of health problems in today's society, future professionals must be develop skills and competencies, which address both nutrition and exercise.

The Department of FSHN has identified the following goals in the 2000-2005 strategic plan:

1. Provide an environment to generate and transmit knowledge in FSHN.
2. Strengthen undergraduate education, programs, and services in FSHN.
3. Strengthen graduate education, professional and research programs in FSHN.
4. Provide FSHN information to the public through education, assist in the transfer of technology to Iowa's food industry and assist economic development of Iowa's food industry through education, outreach and services.
5. Establish leadership in international programs and develop lifelong departmental relationships in research and education.

Under Goal #2, one strategy is to recruit high-ability, well-prepared undergraduate students. The innovative nature of our proposal and the selectivity are likely to attract only the very best students to the program. The initial survey of student interest was extremely positive towards the proposed degree option. Another strategy under Goal #2 is to enhance student learning through improved courses and curricula. The interdisciplinary nature of this proposal demonstrates commitment towards improved curricula, which equips the students with knowledge and skills to address significant societal problems. Goal #3 has a strategy of developing strategically important graduate programs. This proposal is strategically important related to its interdisciplinary nature, novelty, and development of professionals that are in much demand in the marketplace. A specific implementation strategy outlined in the strategic plan is to 'develop interdisciplinary graduate programs to provide training in areas not easily supported by individual departments.' The proposal also addresses one of the core areas of the College of Agriculture's mission statement, excellence in preparing undergraduate and graduate students for careers or further education.

The College of Education strategic plan promises to create programs that achieve national and international distinction, attracting outstanding students. The innovative nature of our proposal and the selectivity are likely to attract only the very best

students to the program. Another strategy noted in the COE strategic plan is to create research opportunities for undergraduates. The present proposal will involve students in both graduate course work and research starting during their senior year and continuing until the combined degree is completed. An additional objective of the COE is to increase collaborative planning in the implementation of research programs. Because students in the proposed curriculum will be expected to engage in research that combines the areas of diet and exercise, we feel this program will foster increased collaboration between the faculty of our two departments to contribute to meeting some of the dietary and activity challenges our population faces.

The Department of HHP promotes health and well-being through discovery, learning, and engagement in the study of physical activity. Specific to the mission in discovery, the department attempts to create and disseminate applied knowledge about physical activity and its relationship to health. Abundant research in both basic sciences and in epidemiological approaches is available to confirm the important link between diet and exercise in preventing and treating many so-called lifestyle diseases such as cardiovascular disease, diabetes, and obesity. The present proposal contributes to expanding the role ISU will play in training the next generation of scientists and practitioners who will help discover, develop, and implement nutritional and physical activity programs and knowledge to improve the lives of people.

## Additional Resource Needs

Either question one or question two requires a "yes" answer. In addition to a "yes" response to one of the first two questions, question three and question four should be answered. If applicable, question five should be answered.

1. Will the program require new resources? Yes \_\_\_ No X  
If "yes," what is the plan to obtain new resources?
2. Will the program require reallocated resources? Yes X No \_\_\_  
If "yes," what is the university's reallocation plan to fund this program?

The Departments of Food Science and Human Nutrition and Health and Human Performance have discussed the reallocation of existing facility and faculty resources. Both departments have sufficient existing facilities to support the proposed program. Faculty participation with the program's Admission Committee and graduate student supervision will be considered by the department in the Promotion and Tenure process and during the assignment of departmental responsibilities.

3. At what level of enrollment will additional resources be required for the program?

Enrollment in this program has been capped at 15 annually to prevent over-extending the existing facility and faculty resources. The overall number of MS students is not likely to increase because only a specific number of masters' students are admitted based on how many faculty are willing to take and advise. It is expected that these students will be included in the existing pool of graduate students, which is approximately 45 in the Department of FSHN and 30 in the Department of HHP. In addition, it will not influence the number of MS students to which TAs/RAs are given; students accepted into this program are eligible to compete for the graduate assistantships available to all MS students in their home department.



4. Estimate the total costs (or *incremental increases in expenditures*) that may be necessary as a result of the new program for the next three years.

	First Year	Second Year	Third Year
a. Faculty	\$15,000	\$30,000	\$60,000
b. Graduate Assistants	0	\$45,000	\$90,000
c. General Expense	\$5,000	\$10,000	\$15,000
d. Equipment	0	0	0
e. Library Resources	0	0	0
f. New Space Needs (estimated amt. & cost of new and/or remodeled space)	0	0	0
g. Computer use	0	0	0
h. Other resources	0	0	0
TOTAL(S)	\$20,000	\$85,000	\$165,000

Additional faculty will not be required for administration of this program; however, reallocation of existing faculty resources will be required (note #2 above). Reallocation of faculty time at 5% FTE is related to the supervision of the graduate theses. Year 1 estimates involvement of 5 graduate faculty, Year 2 estimates 10 graduate faculty, and Year 3 estimates 20 graduate faculty. Graduate assistants will not be required for the administration of the program. While graduate assistantships are not expected nor guaranteed for these students, they are eligible to accept a graduate assistantship. These assistantships would likely be funded by reallocation and extramural grant support. Graduate assistant estimate is based on \$15,000 annually for 0 students in year 1, 3 students in year 2, and 6 students in year 3. General expenses are related to program administration. Space, library, and computer resources currently available for students will be utilized for the program.

5. For programs planning to use external grants, what would be the effect of the grant termination?

External grants are not being used to support this program. External grants may be used to provide graduate assistantships for these students; however, the program will not be marketed/promoted as providing graduate assistantships. Graduate assistantships are not expected nor guaranteed for these students; however, they are eligible to accept a graduate assistantship.