BOARD OF HIGHER EDUCATION

REQUEST FOR COMMITTEE AND BOARD ACTION

COMMITTEE: Academic Affairs **NO**.: AAC 13-04

COMMITTEE DATE: October 9, 2012

BOARD DATE: October 16, 2012

APPLICATION OF UNIVERSITY OF MASSACHUSETTS BOSTON TO AWARD THE MASTER OF SCIENCE AND DOCTOR OF PHILOSOPHY IN EXERCISE AND HEALTH SCIENCES

MOVED: The Board of Higher Education hereby approves the application of **University of Massachusetts Boston** to award the **Master of Science and Doctor of Philosophy in Exercise and Health Sciences**

Upon graduating the first class for this program, the University shall submit to the Board a status report addressing its success in reaching program goals as stated in the application and in the areas of enrollment, curriculum, faculty resources, and program effectiveness.

Authority: Massachusetts General Laws Chapter 15A, Section 9(b)

Contact: Aundrea Kelley, Deputy Commissioner for P-16 Policy and Collaborative Initiatives

BOARD OF HIGHER EDUCATION

October 2012
University of Massachusetts Boston
Master of Science and Doctor of Philosophy in Exercise and Health Sciences

INTENT AND MISSION

The University of Massachusetts Boston has filed an expedited application to offer a Master of Science and Doctor of Philosophy in Exercise and Health Sciences. The application was approved by the University of Massachusetts Board of Trustees on September 19, 2012. The proposed degrees are consistent with and supportive of UMass Boston's (UMB) founding mission to offer students affordable access to opportunities "equal to the best." The proposal is also intended to aligned with the university's new vision to become a major public research university by 2025. By preparing students for leadership in kinesiology-related professions, the proposed graduate degree programs will enable UMB to "meet the demand for a well-educated workforce, and the need for independent, creative, and compassionate citizens and leaders who will shape the quality of individual and social life….[and promote] the best interests of the City of Boston, the Commonwealth of Massachusetts, the nation and the world [through] funded and unfunded research and scholarship across a broad range of intra- and interdisciplinary areas," as stated in the university's Vision Statement. The programs also align with key topic areas that emerged in a survey of deans by the Academic Affairs Sub-Committee of the 2010 Strategic Planning Task Force. Among the university's current research strengths that would benefit from further investment, the deans cited prevention and management of obesity, its co-morbid conditions, and chronic and life-threatening conditions; as well as interventions to promote healthy behaviors.

The required letter of intent was circulated on June 15, 2012. No comments were received. The proposal has obtained all necessary governance approvals on campus and was approved by the University of Massachusetts Board of Trustees on September 19, 2012.

NEED AND DEMAND

State and National Labor Market Outlook

The Bureau of Labor Statistics' (BLS) Occupational Employment Statistics-Occupational Profiles Table (revised May 2010), reports a high location quotient (LQ) in Massachusetts and other New England states for many of the occupations that the proposed program graduates will enter. The location quotient is the ratio of a particular area's occupational concentration to the national average. A Location Quotient that is greater than one indicates a higher than average rate of employment for that occupation. The table below shows representative statistics.

Location Quotients for Kinesiology-Related Fields

BLS Occupation Category	Location Quotient (LQ) and/or US Rank	
Dieticians/nutritionists	MA: 1.30	
Fitness trainers	MA: 1.62	NH, MA: #1
Health educators	MA: 1.25	ME, VT: #1
Health diagnosing/treating practitioners (all others)	MA: 1.87	Boston: 3.17
Health care practitioners and technical occupations, major group	NH: 1.06	MA, RI, ME: #1
Medical scientists (includes public health)	Boston: 5.45	Boston + MA: #1 MA: #2 in employment
Occupational therapists	ME: #1, MA: #2, NH: #3, CT: #5	
Medical and health services managers	MA: 1.25	CT: 1.32, ME: 1.20
Recreational therapists	VT: 1.34	CT: #1, MA: #5 MA: #4 in employment
Therapists (all others)[3]	MA: .057	NH: #3, CT: #4, RI: #5
Epidemiologists	MA: #2, CT: #5	MA: #1 in employment;
Athletic trainers	Boston: 2nd highest of US metro areas	

The Massachusetts Occupational Job Report (2009) compiled by the Executive Office of Labor and Workforce Development, Commonwealth of Massachusetts stated:

"An additional 768,330 job openings will result from the need to replace workers who retire, change industries, or change occupations. In total, nearly one million jobs will need to be filled by 2016. Of these, 78% will occur because of replacement associated with retirement, labor force withdrawal, and occupational changes. Health and Educational Services is the second fastest growing industry sector (+16.8%). Health Care alone will account for 64,630 jobs during the projection period. The third fastest growth is projected in Leisure and Hospitality (+9.2%): an expected 27,160 jobs."

Student Demand

Kinesiology is one of the fastest growing majors across the country, with a growth of 50% between 2003 and 2008 (Wojciechowska, 2010). Undergraduate enrollment in the UMB Department of Exercise and Health Sciences, for example, has increased by more than 233% since 2004, to 586. In Exercise and Health Sciences, this increase brings a growing need for faculty at the college, junior college, or university levels (ACSM, 2003), requiring people with advanced degrees.

Surveys of current students, alumni, and current professionals conducted by the UMB Department of Exercise and Health Sciences (EHS) yielded the following data [see *Appendix B*].

- Of 101 current students surveyed, 95% said yes to the need for an EHS graduate degree program and 40.6% plan to enroll in graduate school after graduation.
- Of 32 alumni, nearly 91% agreed with the need for an EHS graduate degree program; of 18 professionals in the field, 72% agreed.
- Among all 151 respondents, nearly 90% said they believe advancement in the field of exercise and health sciences requires education beyond a bachelor's degree.
- Of the 17 professionals who hold supervisory responsibilities, 15 said they believe the professionals and students they supervise need graduate-level skills and knowledge.

The department intends to draw from a local, regional, national, and international pool of applicants for the MS and PhD programs. The institution expects applicants will be attracted to the focus of these proposed graduate programs in exercise and health sciences, as well as to UMB, the only public research university in Boston. It is expected that the combination of program focus, geographic location, and affordable tuition will allow these graduate programs to reach a broad pool of applicants. It is expected that students in both the master's and doctoral programs will be attracted to the department's interdisciplinary research agenda and faculty expertise. This ranges from the cellular level (molecular mechanisms) to society at large (population and epidemiology studies), with many collaborative efforts on obesity, physical activity interventions and youth.

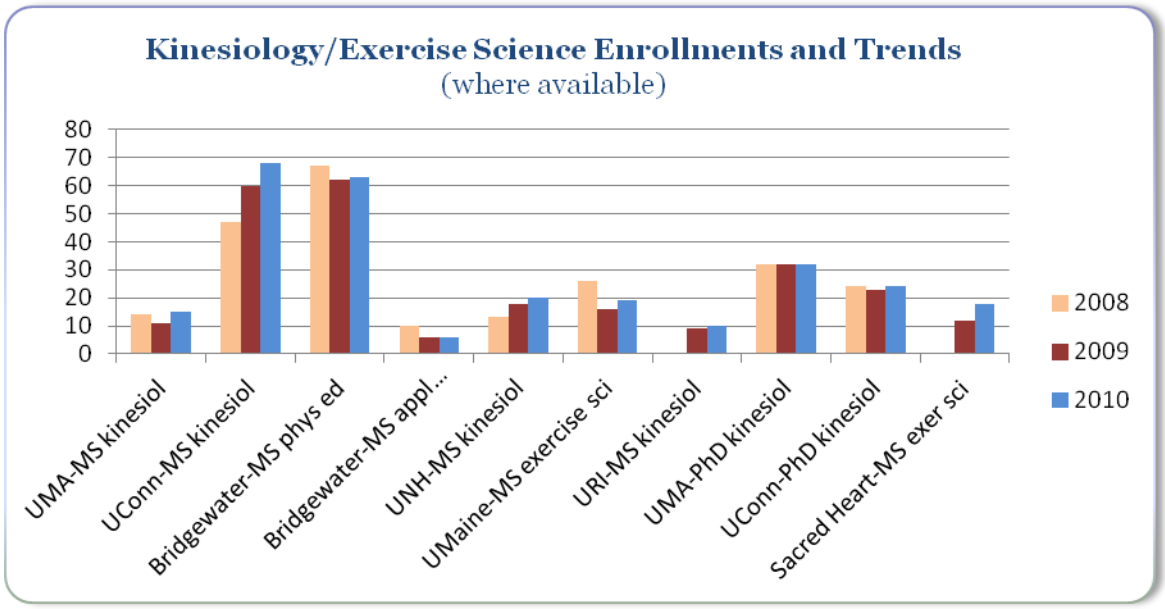
Duplication

In New England,11 universities offer master's degrees in kinesiology, exercise science, or related fields; just two grant doctoral degrees, as shown in the list below.

Kinesiology/Exercise Science Graduate Programs

In Massachusetts	Elsewhere In New England
UMass Amherst (MS and PhD)	University of Connecticut (MS and PhD)
Springfield College (MS)	Sacred Heart University (MS)
Smith College (MS)	University of Rhode Island (MS)
Northeastern University (MS)	Southern Connecticut State University (MS)
Bridgewater State University (MS)	University of New Hampshire (MS)
	University of Maine (MS)

Enrollment in these graduate programs in kinesiology and exercise science has remained stable, as the following chart indicates.



ACADEMIC AND RELATED MATTERS

Admission

Both the MS and PhD programs are designed to attract from a local, regional, national, and international pool of applicants who seek a program matching their interests in urban health. The applicant pool will likely include graduates of undergraduate programs in kinesiology or exercise and health sciences, as well as graduates in other disciplines who meet program prerequisites.

Applicants for both the MS and PhD programs must fulfill the following requirements:

- Completed application form.
- For applicants to the master's program, a bachelor's degree, and for applicants to the PhD program, a master's degree, in exercise science, nutrition, or a related field from a nationally accredited college or university or its international equivalent will be required. The review committee will admit applicants with degrees in other disciplines at their discretion. Program directors will review coursework from other graduate programs on a case-by-case basis to determine transferability of credits up to a maximum of 6 credits.
- The review committee will give preference to all applicants whose transcripts show completion of these courses with a minimum GPA of 3.0, taken within the past seven years: one year of anatomy and physiology with lab, exercise physiology with lab, chemistry with lab, fitness assessment, and statistics. Students may be required to address deficiencies as a condition of acceptance.
- Official transcripts for all undergraduate and/or graduate programs attended.

- GRE General test scores and, when applicable, TOEFL scores.
- Three letters of recommendation from persons with whom the applicant has had extensive academic and/or professional contact.

MS applicants must also submit a typed two-part statement of interest and intent including reasons for wishing to pursue graduate study and specific interests and work area in the field.

PhD applicants must submit an essay addressing specific interest in exercise and health sciences and rationale for pursuing the PhD., along with current research and interests in the fields of exercise or health sciences and a description of professional post-PhD goals.

PhD applicants may be required to schedule an interview as part of the application process.

Projected Enrollment is as follows:

	Numbers of Students									
	Year 1		Year 2		Year 3		Year 4		Year 5	
	MS	PhD	MS	PhD	MS	PhD	MS	PhD	MS	PhD
New Full Time	15	3	20	3	25	3	30	3	30	3
Continuing Full Time	0	0	15	3	20	6	25	9	30	9
New Part Time	0	0	0	0	0	0	0	0	0	0
Continuing Part Time	0	0	0	0	0	0	0	0	0	0
Totals:	15	3	35	6	45	9	55	12	60	12

Curriculum (Attachment A)

The proposed MS program is a 38-credit hour program in exercise and health sciences. Comparable programs nationwide are 32 – 50 credits. The proposed MS program includes a set of core courses, electives, and courses in either of two options: thesis and project. Each option is designed to culminate in a capstone thesis or project, independent work directed by the student's faculty advisor and the project or thesis committee. The core courses provide evidenced-based instruction in foundational areas while the electives provide flexibility for each student to tailor the program to meet individual needs. One aspect of the core is the inclusion of instruction in project and program management, leadership and communication, or both, depending on the student's future goals.

The PhD program is a 60-credit research-based program with core courses (15 credits), electives (15 credits), and 30 credits devoted to developing and conducting an original research project. The core courses provide instruction in research design and

methodology plus professional issues related to ethics, teaching, and scientific communication. Electives allow students to tailor their focus to support their future professional goals. The research credits provide the opportunity for students to develop a research proposal, conduct an original research study, and analyze, defend, and prepare to disseminate the results. Written and oral comprehensive qualifying exams will occur prior to advancing any student to candidacy (typically between the third and fourth semesters). The statute of limitations for the PhD program will be 6 years.

RESOURCES AND BUDGET

Budget projections are presented in Attachment B of this proposal. They indicate that this program will generate $308,536 net annual profit for the university. These projections include the cost of hiring more faculty members and supporting many students on assistantships as well as the revenue from the student tuition and fees and the projected amount of overhead from faculty grant funding. Faculty undertaking sponsored research will also be able to support graduate assistants who would otherwise be supported through university funds.

Faculty and Administration

The EHS department plans to implement these proposed programs with a core faculty whose range of research interests form an interdisciplinary research agenda. EHS faculty expertise aligns closely with the research needs articulated in the May 2008 report of the Physical Activity Guidelines Advisory Committee (PAGAC) of the US Department of Health and Human Services. The report responded to a request by the Secretary of Health and Human Services to “identify where there is sufficient evidence to develop a comprehensive set of specific physical activity recommendations.” The PAGAC report noted that, in studies on physical activity and health, key high-risk populations are underrepresented: persons of low socioeconomic status, racial-ethnic minorities, and persons with disabilities, among others.

Affiliations and Partnerships

Tenure-track faculty members in EHS have a track record of external funding. Since FY 2006, EHS faculty research has received more than $2.4 million in external funding, 62% of which has come from federal sources. Faculty serve on national committees, hold leadership positions in regional and national chapters of professional organizations, serve as reviewers for high impact journals, are NIH grant reviewers, and are fellows of respected organizations. In addition, most EHS faculty members have engaged students in research disseminated in regional and national presentations or publications; some have mentored graduate students in the UMB Nursing program and at other institutions. Internationally, faculty collaborations with groups in Canada, Australia, Mexico, the United Kingdom, and India have produced presentations at national meetings and forthcoming peer-reviewed publications.

Library and Information Technology

Healey Library (www.lib.umb.edu) serves the entire UMB community and also has services targeted specifically to students in Exercise and Health Sciences. Students are able to use the library on site or by remote access. In addition to book collections,

Healey Library subscribes to print and electronic journals and offers individual, group and class library instruction and extensive reference services. The university's library holdings are viewable through a public access catalog available online within or outside the library. Its' services provide access to databases, library catalogs, and academic resources throughout the world. UMB students obtain borrowing privileges at more than 46 local college and universities. Healey Library's newest services include "Ask 24 X 7," a 24-hour chat reference service from the Boston Library Consortium (BLC) that provides librarians from any BLC institution to assist with short questions and database searches. Particularly relevant databases are: Medline, PubMed, CINAHL, PsychInfo, PsychArticles, Eric (EBSCO), Biomed Central, and OVID. These provide access to all the major national and international journals, research institute publications, and data sources for kinesiology. Faculty members also have access to UMass Medical School's Lamar Soutter Library.

Doctoral and master's students will share the computer laboratory facilities with doctoral students in the nursing program at the College of Nursing and Health Sciences, with access preference given to doctoral students. This arrangement will exist until the college moves to its new space; a comparable (or larger) facility in that space is currently under negotiation. The current computer lab consists of six desktop computers (Dell Optiplex 380) with STATA 11.0 and SPSS software installed, and one network printer (HP laser jet P2015dn).

The proposed program will require three additional offices for new faculty including the appropriate furniture. Office spaces for the teaching and research assistants will also be necessary, as well as room for additional staff and space for record-keeping.

Facilities and Equipment

EHS faculty members have access to laboratory facilities that provide support in two dedicated laboratory spaces: the Exercise Physiology Lab and GoKids Boston.

The Exercise Physiology Lab, approximately 1,100 sq. ft in the Center for Clinical Education and Research, is the primary teaching lab for laboratory courses and is used for student and faculty research projects. It is equipped with a computer, LCD projector, document camera, and video capture system, which is used for instruction.

GoKids is UMB's research and practice-based center established to treat and prevent childhood obesity and related diseases through exercise and the promotion of healthy living while reducing health disparities in underserved families. GoKids offers a comprehensive treatment program, to youth aged 8-18, embracing physical activity including state of the art "exergaming" in combination with nutrition and lifestyle counseling. GoKids provides a highly controlled environment for research which can evaluate its effectiveness and impact. GoKids Boston consists of 5,400 sq. ft. dedicated to fitness training, research, and teaching by faculty from EHS and other UMB departments.

Both laboratories are equipped to perform body composition and exercise testing, as well as other physiological tests. Although, incoming faculty may need equipment and/or laboratory facilities not anticipated at this writing, the EHS laboratory is equipped for the basic needs of instruction and research in this field.

Fiscal (Attachment C)

Detailed budget projections indicate that the proposed program will generate $308,536 net annual profit for the university. These projections include the cost of hiring more faculty and supporting students on assistantships as well as the revenue from the student tuition and fees and the projected amount of overhead from faculty grant funding. Faculty undertaking sponsored research will also be able to support graduate assistants who would otherwise be supported through university funds.

The proposed program requested three new faculty and one staff person to be recruited sequentially in the first three years. Anticipated annual costs for each program include a $10,000 operational budget and $1,000 per year for marketing with a startup marketing cost of $10,000. The cost to maintain current equipment in the department is anticipated to be about $3,000 per year. The graduate program director for the master's program is scheduled to receive an additional $2,000 per year, increasing to $2,500. In year three, it is anticipated that a PhD graduate program director will be appointed and receive $3,500 per year. By year five, an annual gross cost of $640,219 is expected.

Projections are based on the assumptions that student tuition and fees will generate most of the annual income; student enrollments projections will be met; in-state students will comprise 75% of master's students and 25% of PhD students; support for 20% of master's students will come from 0.5 FTE TA I assistantships, including health coverage; support for 80% of doctoral students will come from 1.0 FTE assistantships, including health coverage; PhD students supported by assistantships will be TA I during their first year and TA II in subsequent years through year four; tuition and fee income is based on the 2011/2012 academic year tuition rates, with no anticipated annual increases; students receiving assistantships will have tuition waived and the Education Operations Fee waived at the percent equivalent to their appointment; current faculty will continue to generate funds at their current rate and new faculty who join the department will increase the departmental level of grant funding by 5%.

A cost reduction in part-time faculty once TA II PhD students begin teaching undergraduate EHS courses in years two through four is expected. The student assistantship costs of this program will be covered through a combination of funds from Graduate Studies for teaching assistants, direct costs from faculty grants to hire research assistants, overhead funds from faculty grants to pay teaching assistants, and the University's hybrid account to pay some teaching assistants assigned to undergraduate courses with high enrollment.

PROGRAM EFFECTIVENESS

UMB provided the following program effectiveness goals:

Goals, Objectives and Assessment

Goal	Measurable Objective	Strategies for Achieving	Timetable
Track and improve (if needed) job placement of our graduate students.	Track graduate student job placement.	Conduct exit surveys for students graduating from the master's and doctoral programs six months after graduation.	MS graduates: two years after the first cohort enters; annually thereafter. PhD graduates: five years after the first doctoral candidates enter; annually thereafter.
Increase external funding for faculty research.	Beginning in year two of the graduate programs and each year for the next 5 years, increase external funding for faculty research by 5%.	Obtain baseline data on external funding for faculty research from the Vice-provost for Research and Strategic Initiatives; obtain equivalent reports on external funding levels each year thereafter and calculate the increase.	As soon as available for the most recent FY before the start of the graduate programs; then annually once baseline data determined.
Selectively recruit faculty to add new expertise areas in the field of kinesiology, increase elective course offerings to meet student demand, and provide more graduate student mentoring resources.	Add three additional faculty lines with complementary expertise within the first 5 years.	Compare faculty headcount and expertise at the launch of the graduate programs with headcount and expertise in years two and three.	Years one to three of the programs.
		Review headcount and expertise; adjust hiring strategies accordingly.	Annually.
Provide program quality that meets or exceeds students' expectations.	Consistently attain a "satisfaction" or "high satisfaction" rating from at least 80% of our students.	Do class evaluations and student surveys. Faculty meet to review feedback, determine which areas need improvement, and develop strategies for im-provement. Decide if unsatisfied students need more assistance or men-toring; develop support strategies.	At the end of each semester.

Goal	Measurable Objective	Strategies for Achieving	Timetable
Successfully undergo rigorous external reviews to measure program quality and effectiveness.	External Academic Quality Assessment and Development (AQUAD) and Board of Trustees (BOT) 5th year review: feedback on teaching, learning, professional/creative activity, research, public service, and academic outreach indicate that the programs meet or exceed all criteria.	The chairperson will review the AQUAD process and Board of Trustees review with the provost's office to establish program data collection requirements.	Immediately upon program approval.
		Collect data on the stu-dents' success in achiev-ing learning outcomes identified in section C2, program success in achieving goals in this section, and any other areas identified as necessary for reviews.	Annually.
		Participate in the 5th year BOT review and standard 7-year AQUAD review.	After 5 years and every 7 years thereafter.
Enhance current UMass Boston programs.	New or expanded health, fitness, and wellness programs in on-campus facilities as the focus of MS projects or theses.	Examples: New health and fitness testing pro-grams for students, fac-ulty, and staff and other offerings through Univer-sity Health Services; expanded personal training program at UMass Boston's Beacon Fitness Center, new/ expanded Go Kids programs.	Ongoing.

EXTERNAL REVIEW AND INSTITUITONAL RESPONSE

The proposed program was reviewed by Barbara Ainsworth, PhD, MPH, Professor, Arizona State University, School of Nutrition and Health Promotion and James Pivarnik, PhD, Professor, Michigan State University, Department of Epidemiology and Biostatistics. The review team visited the UMB campus to perform an external evaluation of the proposed MS/PhD programs in Exercise and Health Sciences. Their evaluation was based on the review of materials provided prior to the visit, including the proposal, curriculum vitae of faculty members, proposed course syllabi, interviews with key stakeholders including EHS faculty, students, and UMB administrators, and a tour of the relevant UMB facilities.

The reviewers found that the proposed curriculum focuses on the role of physical activity and health-related fitness to positively affect the public's health. In particular, they found

that the program focus is on the health of culturally diverse and urban populations where health disparities are likely to exist. The review team suggested that because UMB is located in Boston, urban health is an excellent focus, and helps to make the EHS graduate program unique in the State of Massachusetts and elsewhere. The reviewers believe that overall both programs are solid and made specific recommendations for strengthening the PhD curriculum and providing more flexibility to the MS curriculum.

UMB responded with concrete ways of addressing these suggestions by adding a course to the core curriculum for PhD students and integrating an urban focus into all of the existing courses in the curriculum as well as new research courses. An urban focus will also be included in Doctoral Seminars in response to the review. UMB agreed with the reviewers' suggestion for additional mentoring of teaching beyond the formal instruction already contained within the curriculum and plans to adopt their recommendation of utilizing doctorate- trained full-time lecturers as teaching mentors for the PhD students. UMB will add a one-year sequence of research methods for doctoral students providing a more in-depth version of examining the strengths and weaknesses of research designs and the opportunity to critically review the designs employed in published research.

The reviewers recommended adding a third option for the MS program that would not include a thesis or a project. Instead, this third option would involve coursework and the successful completion of a comprehensive exam to receive a degree. The addition of this option would increase the capacity of the program without compromising quality and would reduce the burden of the full-time tenure track faculty in the Department. UMB responded by agreeing with this recommendation and attached a revised course of study for this option to their response to the review.

SOLICITATION OF INTEREST FROM STATE UNIVERSITIES (Attachment 1)

As the Exercise and Health Sciences Department (EHS) began work on the Stage II Proposal for the MS and PhD programs, UMB contacted program chairs of the following state schools that currently have academic departments similar to the UMB EHS department: Bridgewater State University, Westfield State University, and Fitchburg State University. Westfield State University expressed an interested in expanding its MS options and possibly in creating an articulation agreement between their MS and the proposed PhD program.

STAFF ANALYSIS AND RECOMMENDATION

Staff thoroughly reviewed all documentation submitted by the University of Massachusetts Boston and external reviewers. Staff recommendation is for approval of the Master of Science and Doctor of Philosophy in Exercise and Health Sciences.

Upon graduating the first class for these programs, the University shall submit to the Board a status report addressing its success in reaching program goals as stated in the application and in the areas of enrollment, curriculum, faculty resources, and program effectiveness.

Attachment 1: Solicitation of Interest from State Universities

UNIVERSITY OF MASSACHUSETTS BOSTON

Proposal Development for MS and PhD in Exercise and Health Sciences
Solicitation of Interest from State Universities

As the Exercise and Health Sciences Department (EHS) began work on the Stage II Proposal for the MS and PhD programs, we contacted the following state schools who currently have academic departments similar to our EHS department: Bridgewater State University, Westfield State University, and Fitchburg State University. We contacted the department chairs of these academic departments email using the text below:

> **I am writing to determine your interest level in exploring collaborations between your institutions and UMass Boston. The Exercise and Health Sciences Department is currently proposing a new PhD program that would prepare graduates for a research-intensive career in Exercise and Health Sciences. Our degree will focus on research skills and students will carry out projects related to our faculty's expertise (including physical activity measurement, physical activity promotion, obesity treatment and prevention across the lifespan, etc). I would love to know if there exists any desire to talk about potential collaborations regarding our proposed program. Please let me know your thoughts.**

The only response to our email was from Holly Noun at Westfield State University who was interested in expanding their MS options and possibly in creating an articulation agreement between their MS and our PhD program. Fitchburg State University did not respond.

ATTACHMENT A: CURRICULUM

MS Program Thesis Option Curriculum Outline

Required Courses (Total required: 9)		
Course Number	**Course Title**	**Credit Hours**
EHS 625	Quantitative Research Methods	3
EHS 630	Advanced Health Fitness and Nutrition Assessment	3
Leadership/Management Credits	EHS 645 Leadership and Communication OR EHS 635 Program and Project Management	3
EHS 655	Advanced Physical Activity, Nutrition and Health I	3
EHS 656	Advanced Physical Activity, Nutrition and Health II	3
EHS 690	Proposal Development	3
EHS 691	Master's Seminar in EHS (1 credit, taken twice)	2
EHS 699	Thesis	3
NURSNG 760	Biostatistics I: Introduction to Biostatistics	3
	Subtotal # Credits Required	26
Elective Course Choices (Total courses required: 4, at least 2 in EHS)		
Exercise and Health Sciences		
EHS 410/610	Exercise and Aging	3
EHS 620	Pediatric Exercise	3
EHS 440/640	Health Fitness Management	3
EHS 635	Project and Program Management	3
EHS 645	Leadership and Communication	3
EHS 350/650	Obesity and Weight Management	3
EHS 670	Designing Exercise and Health Promotion Interventions	3
EHS 675	Principles of Public Health	3
EHS 680	Clinical Exercise Physiology	4
EHS 682	Exercise Metabolism	3
EHS 685	Applied Exercise Physiology	4
EHS 695	Independent Study (repeats are allowed)	1-6
Writing/Communication		
MBAACM 681	Analytical Writing in Management	3
MBAACM 682	Oral Communication for Managers	3

MBAACM 684	Written Communication for Managers	3
Leadership		
MBAMGT 683	Leadership Management in the 21st Century	3
MBAMGT 680	Management of Health Organizations	3
NURSNG 765	Leadership and Management in Health Care	3
DISRES 621	Negotiation	3
Biology		
BIOL 612	Advanced Cell Biology	3
BIOL 615	Immunology	3
BIOL 668	Cellular and Molecular Endocrinology	4
BIOL 675	Advanced Molecular Biology	4
BIOL 692	Advanced Physiology	3
BIOL 693	Seminar in Neurobiology	3
Health-Related Courses		
NURSNG 705	Health Disparities	3
NURSNG 741	Health Policy I	3
NURSNG 742	Health Policy II	3
MBAMGT 681	The Health System and Health Policy	3
GERON GR 611	Health and Physical Changes in Aging	3
PSYCH 724	Health Psychology	3
Research Methodology-Related Courses		
NURSNG 721	Program Evaluation	3
NURSNG 770	Biostatistics II: Advanced Statistical Methods in Healthcare Research	3
NURSNG 780	Epidemiological Methods	3
PSYCH 775	Qualitative Methods in Psychological Research	3
PAFG 645	Program Evaluation	3
	SubTotal # Elective Credits Required	12
Curriculum Summary		
Total number of courses required for the degree		14
Total credit hours required for the degree		38
Prerequisite, Concentration, or Other Requirements: Students are required to have a bachelor's degree in exercise science, nutrition, or a related field from a nationally accredited college or university or its international equivalent. The review committee will give preference to all applicants whose transcripts show completion of these courses with a minimum GPA of 3.0, taken within the past seven years: one year of anatomy and physiology with lab, exercise physiology, chemistry, fitness assessment, and statistics. Students may be required to address deficiencies as a condition of acceptance.		

MS Program Project Option Curriculum Outline

Required Courses (Total required: 10)		
Course Number	**Course Title**	**Credit Hours**
EHS 625	Quantitative Research Methods	3
EHS 630	Advanced Health Fitness and Nutrition Assessment	3
EHS 635	Program and Project Management	3
EHS 645	Leadership and Communication	3
EHS 655	Advanced Physical Activity, Nutrition and Health I	3
EHS 656	Advanced Physical Activity, Nutrition and Health II	3
EHS 690	Proposal Development	3
EHS 691	Master's Seminar in EHS (1 credit, taken twice)	2
EHS 698	Project Practicum	3
NURSNG 760	Biostatistics I: Introduction to Biostatistics	3
	Subtotal # Core Credits Required	29
Elective Course Choices (Total required: 3, at least 1 in EHS)		
Exercise and Health Sciences		
EHS 410/610	Exercise and Aging	3
EHS 620	Pediatric Exercise	3
EHS 440/640	Health Fitness Management	3
EHS 350/650	Obesity and Weight Management	3
EHS 670	Designing Exercise and Health Promotion Interventions	3
EHS 675	Principles of Public Health	3
EHS 680	Clinical Exercise Physiology	4
EHS 682	Exercise Metabolism	3
EHS 685	Applied Exercise Physiology	4
EHS 695	Independent Study (repeats are allowed)	1-6
Writing/Communication		
MBAACM 681	Analytical Writing in Management	3
MBAACM 682	Oral Communication for Managers	3
MBAACM 684	Written Communication for Managers	3
Leadership		
MBAMGT 683	Leadership Management in the 21st Century	3

MBAMGT 680	Management of Health Organizations	3
NURSNG 765	Leadership and Management in Health Care	3
DISRES 621	Negotiation	3
Biology		
BIOL 612	Advanced Cell Biology	3
BIOL 615	Immunology	3
BIOL 668	Cellular and Molecular Endocrinology	4
BIOL 675	Advanced Molecular Biology	4
BIOL 692	Advanced Physiology	3
BIOL 693	Seminar in Neurobiology	3
Health-Related Courses		
NURSNG 705	Health Disparities	3
NURSNG 741	Health Policy I	3
NURSNG 742	Health Policy II	3
MBAMGT 681	The Health System and Health Policy	3
GERON GR 611	Health and Physical Changes in Aging	3
PSYCH 724	Health Psychology	3
Research Methodology-Related Courses		
NURSNG 721	Program Evaluation	3
NURSNG 770	Biostatistics II: Advanced Statistical Methods in Healthcare Research	3
NURSNG 780	Epidemiological Methods	3
PSYCH 775	Qualitative Methods in Psychological Research	3
PAFG 645	Program Evaluation	3
	SubTotal # Elective Credits Required	9
Curriculum Summary		
Total number of courses required for the degree		14
Total credit hours required for the degree		38

Prerequisite, Concentration, or Other Requirements: Students are required to have a bachelor's degree in exercise science, nutrition, or a related field from a nationally accredited college or university or its international equivalent. The review committee will give preference to all applicants whose transcripts show completion of these courses with a minimum GPA of 3.0, taken within the past seven years: one year of anatomy and physiology with lab, exercise physiology, chemistry, fitness assessment, and statistics. Students may be required to address deficiencies as a condition of acceptance.

PhD Program Curriculum Outline

Required Courses (Total required: 8)		
Course No.	**Course Title**	**Credit Hours**
EHS 625	Quantitative Research Methods	3
EHS 810	Teaching in EHS	2
EHS 820	Professional and Ethical Issues in EHS (required in first semester)	2
EHS 891/892	Doctoral Seminars I & II (1 credit each, required in first 2 semesters)	2
NURSNG 760	Biostatistics I: Introduction to Biostatistics	3
NURSNG 770	Biostatistics II: Advanced Statistical Methods in Healthcare Research	3
Research Credits	EHS 899 Dissertation required; EHS 860 Current Literature and EHS 797 Special Topics in EHS can also meet this requirement	30
	Subtotal # Core Credits Required	45
Elective Course Choices (Total required: 5, at least 3 in EHS)		
Exercise and Health Sciences		
EHS 410/610	Exercise and Aging	3
EHS 620	Pediatric Exercise	3
EHS 630	Advanced Health Fitness and Nutrition Assessment	3
EHS 635	Program and Project Management	3
EHS 440/640	Health Fitness Management	3
EHS 645	Leadership and Communication	3
EHS 350/650	Obesity and Weight Management	3
EHS 655	Advanced Physical Activity, Nutrition and Health I	3
EHS 656	Advanced Physical Activity, Nutrition and Health II	3
EHS 670	Designing Exercise and Health Promotion Interventions	3
EHS 675	Principles of Public Health	3
EHS 680	Clinical Exercise Physiology	4
EHS 682	Exercise Metabolism	3
EHS 685	Applied Exercise Physiology	4
EHS 695	Independent Study (repeats are allowed)	1-6
EHS 797	Special Topics in EHS	1-3
Writing/Communication		
MBAACM 681	Analytical Writing in Management	3
MBAACM 682	Oral Communication for Managers	3

MBAACM 684	Written Communication for Managers	3
Leadership		
MBAMGT 683	Leadership Management in the 21st Century	3
MBAMGT 680	Management of Health Organizations	3
NURSNG 765	Leadership and Management in Health Care	3
DISRES 621	Negotiation	3
Biology		
BIOL 612	Advanced Cell Biology	3
BIOL 615	Immunology	3
BIOL 668	Cellular and Molecular Endocrinology	4
BIOL 675	Advanced Molecular Biology	4
BIOL 692	Advanced Physiology	3
BIOL 693	Seminar in Neurobiology	3
Health-Related Courses		
NURSNG 705	Health Disparities	3
NURSNG 741	Health Policy I	3
NURSNG 742	Health Policy II	3
MBAMGT 681	The Health System and Health Policy	3
GERON GR 611	Health and Physical Changes in Aging	3
PSYCH 724	Health Psychology	3
Research Methodology-Related Courses		
NURSNG 721	Program Evaluation	3
NURSNG 780	Epidemiological Methods	3
PSYCH 775	Qualitative Methods in Psychological Research	3
PAFG 645	Program Evaluation	3
Other Courses		
NURSNG 797	Special Topics in Nursing	1-6
	SubTotal # Elective Credits Required	15
Curriculum Summary		
Total number of courses required for the degree		16
Total credit hours required for the degree		60

Prerequisite, Concentration, or Other Requirements: Students are required to have a master's degree in exercise science, nutrition, or a related field from a nationally accredited college or university or its international equivalent. The review committee will give preference to all applicants whose tran-scripts show completion of these courses with a minimum GPA of 3.0, taken within the past seven years: one year of anatomy and physiology with lab, exercise physiology, chemistry, fitness assessment, and statistics. Students may be required to address deficiencies as a condition of acceptance.

ATTACHMENT B: BUDGET

New Academic Program Budget

One-Time /Start-Up Costs	Cost Categories	Annual Expenses				
		Year 1	Year 2	Year 3	Year 4	Year 5
$65,000 faculty startup	Full-time Faculty (1 assistant, 1 associate, 1 lecturer) (*salary + fringe*)	122,409	217,772	299,612	299,612	299,612
	Graduate Program Directors	2,000	2,000	5,500	6,000	6,000
	Staff	61,556	61,556	61,556	61556	61556
	General Adminis-trative Costs	20,000	20,000	20,000	20,000	20,000
	Instructional Materials, Library Acquisitions					
	Facilities/Space/ Equipment	3,000	3,000	3,000	3,000	3,000
	Field & Clinical Resources					
10,000	Marketing	1,000	1,000	1,000	1,000	1,000
	Other: Graduate Assistantships	52,703	130,324	178,988	241,494	249,051
75,000	**TOTALS**	262,668	435,652	569,166	632,662	640,219
		Annual Income				
	Revenue Sources	Year 1	Year 2	Year 3	Year 4	Year 5
	Grants (Projected Overhead)	139,000	145,950	153,248	160,910	168,955
	Tuition	45,774	105,204	140,280	174,009	184,833
	Fees	146,623	314,498	412,487	501,432	529,467
	CNHS Curriculum and Service Fee	9,000	20,500	27,000	33,500	36,000
	Reallocated Funds (Adjunct Replacement)		8,000	20,000	28,000	28,000
	Other: Lab Fees	750	1,000	1,250	1,500	1,500
	TOTALS	341,147	595,152	754,265	899,351	948,755