The University Senate of Michigan Technological University

PROPOSAL 14-07
(Voting Units: Academic Departments)

HEALTH AND PHYSICAL EDUCATION MAJOR, B.S.
Concentration in Fitness and Sports Management
Concentration in Secondary Education

1. Program Description

The proposed Health and Physical Education Major, B.S. will be offered by the Department of Exercise Science, Health and Physical Education. The program provides both a scientific basis and practical experience for students seeking opportunities in the health fitness industry or secondary education. The goal of the core curriculum is to provide students with a broad scientific, theoretical, and practical foundation in health and physical education. Career opportunities include positions as fitness director, wellness director, strength and conditioning coach, personal trainer, sports coach, or as a secondary education teacher in Health Education and Physical Education. In addition, all students will complete either an internship in a clinical or community health setting or a student teaching practicum.

Upon completion of this program students will be qualified to take the American College of Sports Medicine (ACSM) certification examination to become a personal trainer or the National Strength and Conditioning Association (NSCA) certification examination to become a certified strength and conditioning specialist or personal trainer. Opportunities for additional certifications and endorsements such as the PACE certificate for coaching in the state of Michigan, WSI (Water Safety Instructor), Lifeguard, and Lifeguard /CPR/First Aid Instructor are also available and strongly encouraged.

2. Rationale

The proposed degree builds on Michigan Tech's strengths in the sciences and is consistent with the University's vision of expanded degree program offerings to attract new students. The Health and Physical Education Major degree provides students an entrance into a field that has a broad choice of career options. According to the U.S. Department of Labor Bureau of Labor Statistics, employment of health and fitness workers is expected to "increase much faster than the average for all occupations through 2014" due to the rapid growth in the fitness industry. Employment in the health fitness services is projected to increase 27% or more over the next ten years. An increasing number of individuals are spending more time and money on fitness clubs, and more businesses are recognizing the benefits of health and fitness programs. Furthermore, our aging population is getting more involved with health and fitness programs to stay healthy, physically fit, and independent. This program will be an attractive choice for students and will provide employees and professionals for this growing employment sector.

The proposed Health and Physical Education degree will also include an option for secondary education. This concentration will specifically prepare students to become teachers and coaches in a secondary school system. The concentration is consistent with the State of Michigan Program Standards. Innovative integration of the curriculums of Health Education and Physical Education will better serve the future expectations of students to teach both subject areas in a public school setting. Nationally, job opportunities in Health and Physical Education – Secondary Education are good due to expected retirements. According to the U.S. Department of Labor Bureau of Labor Statistics, employment for both teachers and athletic coaches are projected to increase 18 – 26% over the next ten years.

In addition to providing Michigan Tech students with new opportunities to pursue careers in the health and physical education field, the current proposal has societal implications. The American Heart Association recently reported that over 136 million Americans are classified as overweight. Even more disturbing is the fact that nearly 9.2 million children and adolescents are considered overweight or obese. Our nation is in the midst of a health epidemic, and there is a growing need to have more individuals educated in the fields of health and physical education. Obesity is a primary risk factor for the development of both cardiovascular disease and diabetes, and has been linked to some cancers. With

health care costs rising exponentially, it is clear that new and innovative ways for fighting obesity are necessary. This includes both education and research.

Finally, a degree in Health and Physical Education at Michigan Tech University has the potential to lead to unique research collaborations. The National Institutes of Health (NIH) and National Science Foundation (NSF) recently co-sponsored both a workshop and Request for Applications (RFA) entitled "Bioengineering Approaches to Energy Balance and Obesity." The intent of both the workshop and RFA was to encourage the development of multidisciplinary teams of engineers and scientists to "develop new technologies, instruments, and medical devices to better assess appropriate biomedical parameters and provide feedback and/or therapy to reduce the prevalence of obesity and overweight." Such multidisciplinary teams are possible at Michigan Tech University, and would be facilitated by the development of a Health and Physical Education degree. We recognize that such collaborations will be limited during the start-up phase of this program, but collaborations with the Departments of Biomedical Engineering (health assessment/rehab equipment), Biological Sciences (human health/genetics), Psychology (human factors), Chemistry (pharmacology), Mechanical Engineering (joint mechanics), Civil & Environmental Engineering (trail developments for recreation), Computer Science (data acquisition), and others are possible. Potential areas of research for future faculty would be childhood obesity, adult obesity, diabetes, health education, and other areas related to health and physical education.

In summary, the proposed degree is consistent Michigan Tech's vision for expanded degree offerings and will attract new students interested in a health fitness career or secondary health and physical education. Our short term goal is to provide Michigan Tech students with an outstanding undergraduate education and internship experience in health and physical education. Our long term goal is to attract world-class faculty that will develop strong research programs addressing health concerns in our nation, such as obesity, diabetes, etc. Research collaborations with other departments at Michigan Tech and nationally recognized institutes will be expected.

3. Related Programs

The B.S. in Health and Physical Education will draw upon courses currently taught as part of the existing B.S. programs in Biology and in Exercise Science. It is also complemented by the Minor in Coaching. Students will have options to concentrate in either Fitness and Sports Management or Secondary Education. The proposed major in Health and Physical Education differs from the existing B.S. in Exercise Science, and these differences are highlighted in Appendix A.

The science of health and physical education provides excellent opportunities for collaboration between Exercise Science, Biology and Biomedical Engineering programs, especially at the level of senior design projects and the Senior Internship of the Health and Physical Education Major. All students in the proposed major will have to participate in a senior internship, which will provide them with practical experience in the field of health and physical education. However, our students will also be encouraged to work with other departments on senior design projects. Such relationships are currently being explored with existing Exercise Science students and the Department of Biomedical Engineering. Developing a working relationship in undergraduate research in complimentary programs opens collaborative learning experiences for all involved. There is a need to approach human problems such as increasing obesity and lack of fitness from many perspectives, allowing our University to contribute the overall goal of improving life by fusing knowledge and experiences from sciences and engineering. The potential interdisciplinary collaboration between departments will provide Michigan Tech with a technological niche that differentiates our program from others in the state.

<u>Related Bachelor degrees at other State of Michigan Universities</u>:

Central Michigan University
- B.S. in Education — Dept of Physical Education & Sport
  - Physical Education Major, Secondary Certification — School of Health Sciences
  - School Health Education Major, Secondary Certification
- B.S., B.A. in Community Health & Health Administration
- B.S., B.A. in Health Fitness in Preventive and Rehab Programs
- B.S., B.A. in Public Health Education and Health Promotion

Eastern Michigan University

B.S. in Physical Education, k-12 Teacher Certification	College of Health & Human Services
Grand Valley State University	
B.S. in Physical Education, k-12 Teacher Certification	Department of Movement Sciences
Michigan State University	
B.S. in Kinesiology Physical Education Option, k-12 Teacher Certification	Department of Kinesiology
Northern Michigan University	
B.S. in Education Physical Education Major, Secondary Certification School Health Education Major, Secondary Certification B.S. in Community Health Education B.S. in Management of Health and Fitness	Department of Health, Physical Education and Recreation
Saginaw Valley State University	
B.A. in Physical and Health Education, k-12 Teacher Certification	Department of Kinesiology
University of Michigan – Ann Arbor	
B.S. in Physical Education, k-12 Teacher Certification B.A. in Kinesiology - Sports Management	Department of Kinesiology
Wayne State University	
B.S., B.A. in Education Major in Health Education, Secondary Certification Major in Kinesiology, Secondary Certification	Division of Kinesiology, Health and Sport Studies
Western Michigan University	
B.S. in Physical Education, k-12 Teacher Certification B.S. in School Health Education, k-12 Teacher Certification B.S. in Community Health Education	Department of Health, Physical Education and Recreation

Related Bachelor degrees from benchmark Universities:

Purdue University	
B.A. in Physical Education, k-12 Teacher Certification B.A. in Health and Fitness	Department of Health & Kinesiology
Texas Tech University	
B.S. in Physical Education B.S. in Health Education	College of Education
Tennessee Tech University	
B.S. in Health and Physical Education, k-12	Department of Health and Physical Education
Virginia Tech University	
B.S. in Exercise and Health Promotion	Department of Human Nutrition, Foods and Exercise

4. Projected Enrollment

The goal in the first year is to attract 20 students, with the expectation of 60-80 students enrolled in the major by the fourth year (steady state). It is anticipated that approximately 2/3 of the students will be enrolled in the Fitness and Sports Management concentration due to higher job placement (expected employment growth of 27% or higher over the next ten years). The remaining 1/3 of the students will be enrolled in the Secondary Education concentration, where employment opportunities are still good (expected employment growth of 18-27% over the next ten years), but not quite as high as the Fitness and Sports Management concentration. Therefore, it is projected that by the fourth year (steady state), there will be approximately 40 students enrolled in the Fitness and Sports Management concentration and 20 students enrolled in the Secondary Education concentration.

5. Scheduling Plans

This Health and Physical Education B.S. will be a regular on-campus program offering. The anticipated start date is Fall Semester 2007.

6. Curriculum Design

There are two concentrations for the proposed degree: 1) Fitness and Sports Management, 2) Secondary Education. In both concentrations, students will meet the General Education and co-curricular requirements of the University. The total number of credits to earn the degree in Health and Physical Education – Fitness & Sports Management will be 128 credits earned as: Core, 77 credits; General Education, 28 credits; Free Electives, 23 credits. In contrast, the total number of credits to earn the degree in Health and Physical Education – Secondary Education will be 132 credits earned as: Core, 70 credits; Teacher Education, 34 credits; General Education, 28 credits. The detailed differences are shown in Appendix A.

Core Courses **Health & Physical Education, B.S. – Fitness and Sports Medicine Concentration**

Course #	Course Title	Credits
Biological Sciences		
BL 1040	Principles of Biology	4
BL 2010	Anatomy and Physiology I	3
BL 2011	Anatomy and Physiology I Lab	1
BL 2020	Anatomy and Physiology II	3
BL 2021	Anatomy and Physiology II Lab	1
BL 2940	Human Nutrition	3
BL 3970	Current Health Issues	3
		18
Chemistry		
CH 1000	Preparatory Chemistry	3
		3
Exercise Science		
EH 1100	Foundations of Health and Physical Education	2
EH 2010	Principles of Weight Training & Aerobics	2
EH 2020	Introduction to Individual Sports	2
EH 2030	Introduction to Team Sports	2
EH 2200	Human Reproductive Health & Development	2
EH 3050	Intro to Athletic Training	3
EH 3100	Exercise Assessment and Prescription	3
EH 3150	Health of Special Populations	2
EH 3200	Foundations of Kinesiology	3
EH 3800	Strength & Conditioning	2
EH 3820	Personal Training	2
EH 4080	Sports and Facilities Management	2
EH 4010	Sports Psychology	3
EH 4400	Motor Control	3
EH 4420	Motor Learning & Development	3
EH 4800	Internship in Health & Physical Education	3
		39
Mathematics		
Select One:		
MA 1020	Quantitative Literacy	4
MA 1032	Data, Functions & Graph Plus	4
Required:		
MA 2720	Statistical Methods	4
		8
Business		
BA 3700	Organizational Behavior	3
BA 4770	Human Resources Management	3
BA 3800	Principles of Marketing	3
		9

General Education and Distribution		
UN 1001	Perspectives	3
UN 1002 or 1003	World Cultures	4
UN 2001	Revisions	3
UN 2002	Institutions	3
General Education and Distribution Courses		15
		28
Electives (maximum of 5 credits from EH 4950)		**23**
TOTAL Credits Required (Core, General Education, Electives)		**128**

The department GPA will be calculated using grades in Exercise Science and Biological Sciences (EH and BL designations) and any cognate courses taken as electives with these designations. As allowed by the General Education requirements, degrees developed in Physical Education can apply Physical Education activity classes toward the degree requirements and receive a letter grade (see MTU General Education Development Task Force; August 20, 1998).

Students seeking the Health and Physical Education – Fitness and Sports Management option will be required to take 3 units of co-curricular. After fulfilling the University co-curricular requirement, Health and Physical Education majors have the option to receive credit for physical activity classes (up to 5 credits). These additional physical activity classes will consist of a mixture of students taking the class for co-curricular (non-Health & PE majors) and credit (Health & PE majors). Students taking the class for credit will have additional assessment requirements (i.e., quizzes, tests, oral presentations, etc). Students will enroll in EH 4950 – Special Topics in Physical Activity to accommodate these requirements. The existing pass/fail system will continue for non-Health & PE majors.

The Department of Biological Sciences has agreed to waive CH 1110 as the prerequisite for BL 2010 for Health & Physical Education majors. Instead, CH1000 will be taken in preparation for BL 2010.

Core Courses **Health & Physical Education, B.S. – Secondary Education Concentration**

Course #	Course Title	Credits
Biological Sciences		
BL 1040	Principles of Biology	4
BL 2010	Anatomy and Physiology I	3
BL 2011	Anatomy and Physiology I Lab	1
BL 2020	Anatomy and Physiology II	3
BL 2021	Anatomy and Physiology II Lab	1
BL 2940	Human Nutrition	3
BL 3970	Current Health Issues	3
		18
Chemistry		
CH 1000	Preparatory Chemistry	3
		3
Exercise Science		
EH 1100	Foundations of Health and Physical Education	2
EH 2010	Principles of Weight Training & Aerobics	2
EH 2020	Introduction to Individual Sports	2
EH 2030	Introduction to Team Sports	2
EH 2100	Sports Officiating	2
EH 2200	Human Reproductive Health & Development	2
EH 2580	Water Safety Instructor	1
EH 3050	Intro to Athletic Training	3
EH 3100	Exercise Assessment and Prescription	3
EH 3150	Health of Special Populations	2
EH 3200	Foundations of Kinesiology	3
EH 3800	Strength & Conditioning	2
EH 3820	Personal Training	2

EH 4010	Sports Psychology	3
EH 4300	Program Administration of Health Education	2
EH 4301	Program Administration of Physical Education	2
EH 4400	Motor Control	3
EH 4420	Motor Learning & Development	3
		41

Mathematics

Select One:		
MA 1020	Quantitative Literacy	4
MA 1032	Data, Functions & Graph Plus	4
Required:		
MA 2720	Statistical Methods	4
		8

Education – Secondary ED Requirements

PSY 2000	Principles of Psychology	3
ED 3100	Instructional Technology	2
ED 3110	Psychological Foundations of Education	3
ED 3210	Foundations of Education	2
ED 3410	Clinical Experience	1
HU 4150	Literacy in the Content Area	4
EH/ED 4790	Curriculum & Methods of Teaching Health and and Physical Education	3
ED 4700	Fundamentals of Instruction	3
ED 4910	Directed Teaching	12
		33

General Education and Distribution

UN 1001	Perspectives	3
UN 1002 or 1003	World Cultures	4
UN 2001	Revisions	3
UN 2002	Institutions	3
General Education and Distribution Courses		15
		28

Electives **0**

TOTAL Credits Required (Core, General Education, Electives) **131***

* Under existing guidelines, individuals will have to complete not only a teaching major, but will also have to declare a teaching minor to become certified by the state of Michigan for secondary education. The proposed curriculum was designed to prepare students for both the Physical Education certification (Endorsement code – MB) and the Health Education certification (Endorsement code - MA). Students pursing this teaching major will have to choose a minor such as biology, chemistry, etc. They would likely choose biology as their minor, which would require an additional 10-14 credits. This would also necessitate students replacing CH 1000 (3 cr) with CH 1100 (4 cr). Therefore, the TOTAL credits required would be 142-146.

The department GPA will be calculated using grades in Exercise Science and Biological Sciences (EH and BL designations) and any cognate courses taken as electives with these designations. Students seeking the Health and Physical Education – Secondary Education option will be required to take 3 units of co-curricular. Social Dance (PE 0152), Water Safety Skill (PE 1580), and Fall or Winter Outdoor Adventure (PE 0173 or 0174) will be required to meet state requirements for secondary education. The other 1 unit can be chosen by the student.

The Department of Biological Sciences has agreed to allow CH 1000 to be taken as the prerequisite for BL 2010 for Health & Physical Education majors on a trial basis. The Department of Exercise Science, Health and Physical Education will work closely with the instructor for BL 2010 (currently Dr. Ron Gratz) and the Department of Biological Sciences in assessing weather students are adequately prepared for BL 2010. It is anticipated that CH 1000 will provide the students with the fundamental chemistry concepts necessary for BL 2010.

7. New Courses & Teaching Distribution

The table below lists all the new EH courses needed for proposed degree. The final three columns indicate if the classes are required for the Secondary Education concentration (Ed) or the Fitness and Sports Management concentration (FSM). Note that two classes will also be utilized for the Exercise Science degree. An explanation of the proposed teaching distribution for these new courses is provided below the table.

Course #	Class Title	Credits	Ed	FSM	ExSci
EH 1100	Foundations of Health and Physical Education	2	X	X	
EH 2010	Principles of Weight Training & Aerobics	2	X	X	
EH 2020	Introduction to Individual Sports	2	X	X	
EH 2030	Introduction to Team Sports	2	X	X	
EH 2100	Sports Officiating	2	X		
EH 2200	Human Reproductive Health & Development	2	X	X	
EH 3150	Health of Special Populations	2	X	X	
EH 3800	Strength & Conditioning	2	X	X	
EH 3820	Personal Training	2	X	X	
EH 4300	Program Administration of Health Education	2	X		
EH 4301	Program Administration of Physical Education	2	X		
EH 4400	Motor Control	3	X	X	X
EH 4420	Motor Learning & Development	3	X	X	X
EH 4790	Curriculum and Methods of Teaching Health and Physical Education	3	X		
EH 4800	Internship in Health & Physical Ed.	3		X	
EH 4950	Special Topics in Physical Activity	var	X	X	
	Total Credits	**34**			

The Provost and Vice President for Academic Affairs tentatively approved a tenure-track faculty line for the Exercise Science program (September, 2006). The new faculty will teach EH 4400 and 4420, which will serve both the Exercise Science degree and the proposed Health and Physical Education degree.

The current proposal requests funding for a lecturer line. The new lecturer will teach the following new courses: EH 1100, EH 2200, EH 3150. In addition, this lecturer will also be responsible for the Health and Physical Education internships (EH 4800), Exercise Science internships (EH 4900), and academic advising. Therefore, this lecturer line will not only enable the development of a Health and Physical Education degree, but it will also provide aid to a fast-growing Exercise Science major. The first year Exercise Science program currently has 28 majors, exceeding first year expectations of 20 students.

EH 2010, EH 2020, and EH 2030 will be taught by existing instructors within the teaching-load guidelines of our existing charter. These courses will include one hour of lecture and 2 hours of lab from existing physical activity classes being offered.

EH 2100, EH 3800, and EH 3820 will be taught by adjunct faculty and/or existing instructors. We are requesting some additional stipend for these 6 credits.

Finally, EH 4300, EH 4301, and EH 4790 are three courses that will need to be taught as we develop the secondary education option for this degree. The current proposal requests a tenure-track faculty line in year 3 of the program. This faculty member will teach these final courses, or other courses that will allow another member of the department to teach these courses.

8. Library and Other Learning Resources

The Library collection currently supports undergraduate degree education in the related areas of biological sciences, biomedical engineering, chemistry and exercise science, with support for degree minors in coaching. The online journal collection offers full-text access to 26 journals in anatomy, 69 journals in nutrition and dietetics, 98 journals in physiology, 170 journals in public health and 32 journals in sports medicine. Databases such as Medline (PubMed) from the National Library of Medicine, Web of

Science, and Health Reference Center Academic assist in the location of additional peer-reviewed articles of interest. As a selective depository for federal government documents, the Library also provides access to relevant resources from Federal agencies in health and education. This support is comparable to the resources offered at other institutions within the state of Michigan.

The Department of Exercise Science, Health and Physical Education recently expanded into a baccalaureate granting department. As such, the library collection needs some updated and expanded book resources for the baccalaureate level programs. We request an additional book allocation of $500 per year for three years to provide materials in fitness assessment and training, biomechanics, sport equipment, epidemiology of sports injuries and illnesses, and other topics covered by new courses.

9. Computing Access Fee

The Department of Exercise Science, Health and Physical Education has an established computer arrangement with Biological Sciences, Social Sciences, and Psychology. All student lab fees feed into one account. Health and Physical Education students have access to two computer labs, the Exercise Science computer lab (SDC 234) and the Biological Sciences computer lab (DOW 708). Access to the DOW 708 lab has been granted to allow students computer access on the main campus. The computational fee will be $235 per semester.

10. Faculty Curriculum Vitae

Exercise Science faculty:
Vitae can be found at: http://www.exsci.mtu.edu/cv

Jason Carter, PhD
Chair & Assistant Professor; Exercise Physiology, Sports Nutrition, Neurovascular Control

TBD, PhD (*Exercise Science faculty search approved and currently underway*)
Assistant Professor; Motor Control, Motor Learning/Development

Judy Fynewever, MA, MS
Lecturer (full-time); Sports Psychology, Aquatics, Ballroom Dancing, Individual Sports

TBD, MS (*Requested lecturer position for this proposal*)
Lecturer (full-time); Health Education, Physical Education, Internship Coordinator

Craig Pellizzaro, MS
Instructor (60%); Recreation Administration, NIRSA, ASEP, Intramural Sports Assist. Direct.

Timothy Driscoll, MS
Instructor (20%); Athletic Administration, AFCA, Football Assistant Coach

Scott Hazelton, MS
Instructor (20%); Exercise Science, AFCA, Football Assistant Coach

Erik Ieuter, MA
Instructor (20%); Health and Physical Education, AFCA, Football Assistant Coach

Brian Brewster, M.A.T., ATC
Instructor (by arrangement); Certified Athletic Trainer
Christopher Ipson, ATC,
Instructor (by arrangement); Certified Athletic Trainer

Nathan Larson, ATC,
Instructor (by arrangement); Certified Athletic Trainer

Adjunct Exercise Science Faculty:
Vitae can be found at: http://www.exsci.mtu.edu/cv

Christopher Hurley, Ph.P.T., ATC
Physiology, Bilateral force deficit, rate of fatigue, balance and falls

Mark Randell, Ph.P.T.
Exercise physiology, Exercise assessment and prescription

Cameron Williams, PT, DPT, MS

Physical therapy, functional anatomy, ergonomics

Additional Physical Education Instructors:

Dennis Hagenbuch, BS
Instructor (40%); Intramural Sport Director

Mike Axford, BS
Instructor (10%); Tennis Head Coach

John Barnes, BS
Instructor (10%); Women's Basketball Head Coach

Kevin Barry, MS
Instructor (20%); Football Assistant Coach

Kim Cameron, BS
Instructor (20%); Women's Basketball Assistant Coach

Joe Haggenmiller, JD
Instructor (10%); Cross-country Skiing, Cross-country Running, and Track Coach

Luke Kiss, BS
Instructor (20%); Men's Basketball Assistant Coach

Krista Mikesch, BS
Instructor (10%); Women's Volleyball Head Coach

Craig Vliestra, MS
Instructor (20%); Women's Volleyball Assistant Coach

Tom Kearly, MS
Instructor (by arrangement); Football Head Coach

Kevin Luke, BS
Instructor (by arrangement); Men's Basketball Head Coach; Assistant Athletic Director

Joel Issacson, BS
Instructor (by arrangement); Assistant Athletic Director

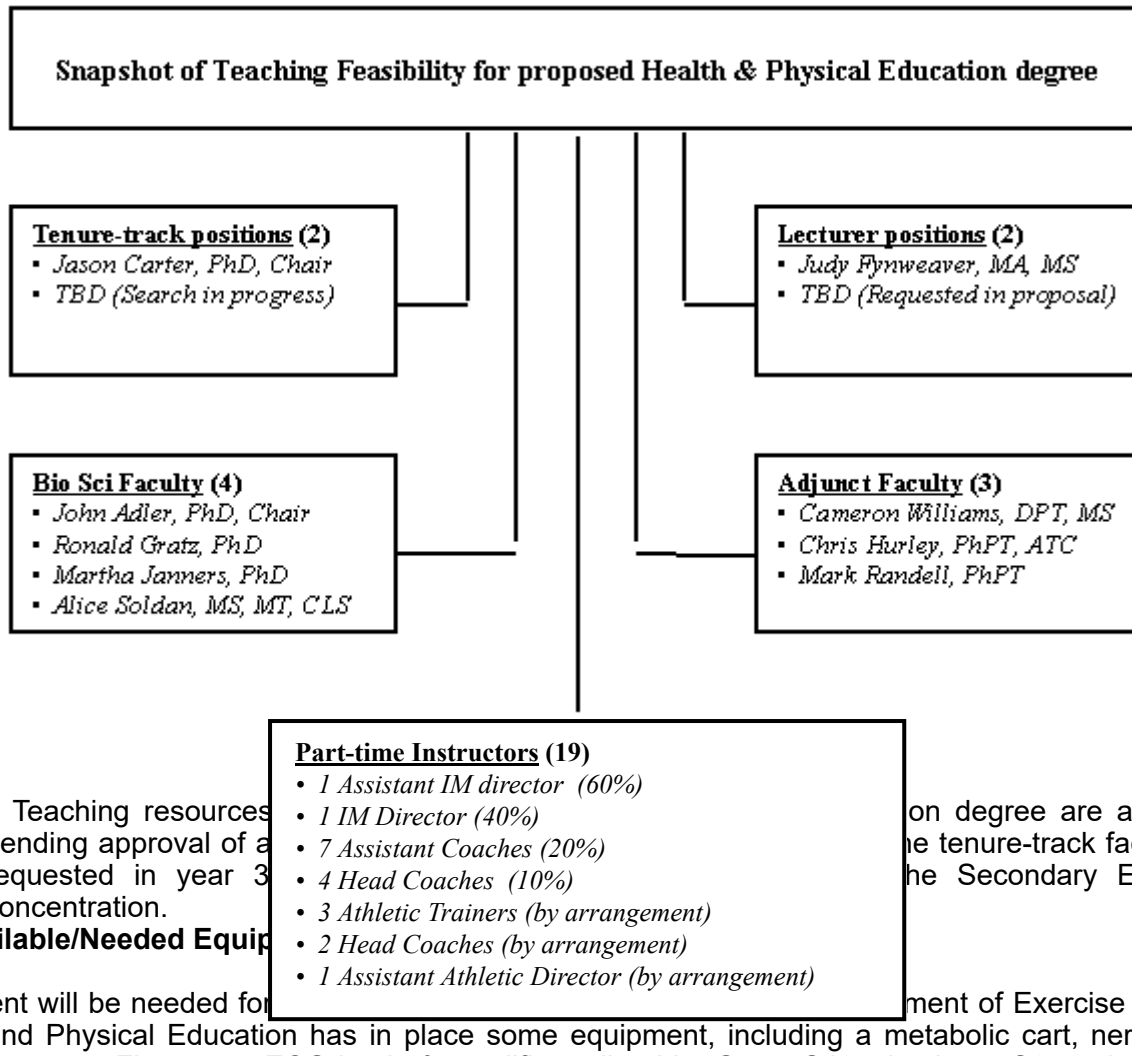
Biological Sciences Faculty (teaching core courses):
Vitae can be found at: http://www.bio.mtu.edu/faculty/index.htm

John Adler, Ph.D., Chair
Biochemistry of sterols and steroids

Ronald Gratz, Ph.D.
Pulmonary and cardiovascular physiology

Martha Janners, Ph.D.
Developmental and cell biology

Alice Soldan, MS, MT(ASCP), CLS(NCA)
Human nutrition and clinical lab science



Note: Teaching resources on degree are adequate, pending approval of a e tenure-track faculty line requested in year 3 he Secondary Education concentration.

11. Available/Needed Equip

Equipment will be needed fo ment of Exercise Science, Health and Physical Education has in place some equipment, including a metabolic cart, nerve traffic analysis system, Finometer, ECG leads & amplifiers, tilt table, Grass S48 stimulator, O2 analyzer, CO2 analyzer, sphygmomanometers, skin fold calipers, and Monark exercise bike. Some of this equipment is strictly for research, some of it is for both research and teaching. Futhermore, renovation money for the Exercise Science teaching lab is expected later this year (designated in last year's Exercise Science proposal).

There is a need to develop an additional teaching lab specifically for the strength and conditioning class/personal training aspect of our degree. Michigan Tech Athletics department has agreed to work with us on a joint strength and conditioning facility that will serve the Varsity athletes and will be used in designated times for Health and Physical Education classes. We are requesting $40,000 for renovations of the strength and conditioning center when Athletics is prepared to build the new facility (expected in 2008-09). The new facility will ultimately free up space on the second floor of the SDC to be utilized by the Department of Exercise Science, Health and Physical Education for future office and laboratory space.

12. Program Costs

As specified in Appendix B, additional recurring costs are associated with the start of this program. Specifically, an immediate lecturer line is requested to teach core courses for the new degree and coordinate the internships associated with this degree and the Exercise Science internships. This position will necessitate funds for office renovation (there are no available offices, but space has been identified). In year 3, a tenure-track faculty line is requested to allow for us to phase in our final classes for the secondary education option of the proposed degree. Finally, additional adjunct hiring will be necessary for a few of the new courses proposed.

13. Space

Space is an issue, but can be resolved with start-up requested in the current proposal. Last year's Exercise Science degree included negotiated space for a research laboratory for the chair and future space for a teaching laboratory. This new teaching laboratory space has now been negotiated and we are planning on construction this spring. With the requested start-up of this proposal, office space for the lecturer line can become part of the renovation. Additionally, space for the new Exercise Science tenure-track faculty line is also included in this master renovation plan. We are requesting $25,000 for this space/office renovation.

14. Policies, Regulations and Rules

15. Accreditation Requirements

The proposed degree does not need to be certified. However, the Secondary Education option will need to be approved, and we will be working with the State of Michigan on this approval process. The proposed degree includes core classes, and proposed additions, that are consistent with State of Michigan requirements for Secondary Education certification.

16. Internal Status of Proposal

Department of Exercise Science, Health and PE	, Date Approved
Dean of Sciences and Arts	, Date Approved
Provost	, Date Approved
Deans Council & University Support Units	, Date Approved
University Senate	, Date Approved
Board of Control (preliminary)	, Date Approved
Academic Affairs Officers	, Date Approved
Board of Control (final)	, Date Approved

17. Planned Implementation Date

Fall Semester, 2007

<u>Appendix A</u>:

The proposed Health and Physical Education degree is different from the existing B.S. in Exercise Science. In particular, Exercise Science prepares students for a pre-professional career in addition to immediate employment pathways. Some pre-professional careers that will require additional schooling beyond a B.S. in Exercise Science would be physical therapy, occupational therapy, medical doctor, physicians assistant, chiropractor, sports psychologist, dietician, or a college professor. Therefore, a stronger science content is necessary for the Exercise Science degree. The Health and Physical Education degree is designed more for immediate employment opportunities in the health fitness industry or secondary education. Examples of career pathways would be a fitness coordinator, wellness coordinator, personal trainer, strength & conditioning coach, athletic team coach, or secondary education. For these positions, the scientific content is still necessary, but not to the extent required for pre-professional pathways. Therefore, the proposed Health and Physical Education degree has distinct differences (highlighted below).

Key differences in Health and Physical Education curriculum compared to Exercise Science:

1. Health and Physical Education does not require physics
   Exercise Science requires 8 credits of College Physics (PH1110, 1111, 1200, 1210)

2. Health and Physical Education requires 3 credits of Preparatory Chemistry (CH1000)
   Exercise Science requires 9 credits of University Chemistry (CH1110, 1111, 1120)

3. Health and Physical Education requires 8 credits of mathematics, but does not require any calculus (MA 2720 and MA 1020 or MA 1032)
   Exercise Science requires 4 credits of Calculus for Life Sciences (MA 1135)

The lower physics, chemistry and mathematics requirements proposed with this degree are consistent with other programs in the state of Michigan. In fact, chemistry is not required by several programs. However, a basic understanding of chemistry is necessary for the Anatomy and Physiology sequence that Health and Physical Educations majors will have to take. Therefore, it is required in our degree proposal.

Below is a list of courses required for each specific degree:

Required by all degrees (Exercise Science and both Health & Physical Education concentrations):

BL 1040 – Principles of Biology
BL 2010 – Anatomy & Physiology I
BL 2011 – Anatomy & Physiology I Lab
BL 2020 – Anatomy & Physiology II
BL 2021 – Anatomy & Physiology II Lab
BL 2940 – Human Nutrition
BL 3970 – Current Health Issues
EH 3050 – Intro to Athletic Training
EH 3100 – Exercise Assessment and Prescription
EH 3200 – Foundations of Kinesiology
EH 4010 – Sport Psychology

Required for the Exercise Science degree, but neither Health & Physical Education concentration:

BL 2100 – Principles of Biochemistry
BL 2200 – Genetics
BL 4470 – Analysis of Biological Data
CH 1110 – University Chemistry I
CH 1111 – University Chemistry I Lab
CH 1120 – University Chemistry II
EH 1000 – Intro to Exercise Science
EH 4200 – Sports Nutrition Seminar
EH 4900 – Internship in Exercise Science
MA 1135 – Calculus for Life Sciences
PH 1110 – College Physics I
PH 1111 – College Physics I Lab
PH 1200 – Physics by Inquiry II
PH 1210 – College Physics II

Required by Health & Physical Education degrees (both concentrations), but not Exercise Science:

CH 1000 – Preparatory Chemistry
EH 1100 – Foundations of Health and Physical Education
EH 2010 – Principles of Weight Training & Aerobics
EH 2020 – Introductions to Individual Sports
EH 2030 – Introduction to Team Sports
EH 2200 – Human Reproductive Health & Development
EH 3150 – Health of Special Populations
EH 3800 – Strength and Conditioning
EH 3820 – Personal Training
EH 4080 – Sport and Facilities Management
EH 4400 – Motor Control
EH 4420 – Motor Learning & Development
EH 4800 – Internship in Health & Physical Education
MA 1020 or 1032 – Quantitative Literacy or Data, Functions & Graphs Plus
MA 2720 – Statistical Methods

Required for only Health and Physical Education - Fitness & Sports Management concentration:

BA 3700 – Organizational Behavior

BA 4770 – Human Resources Management
BA 3800 – Principles of Marketing
EH 4800 – Internship in Health & Physical Education

Required only for Health and Physical Education – Secondary Education concentration:
EH 2100 – Sports Officiating
EH 2580 – Water Safety Instructor
EH 4300 – Program Administration of Health Education
EH 4301 – Program Administration of Physical Education
34 credits of Secondary Education courses

Appendix B:

Resource Analysis for Proposed B.S. Program in Health & Physical Education

		2007-08 Year 1	2008-09 Year 2	2009-10 Year 3	2010-11 Year 4	2011-12 Year 5 steady state
HEALTH/PHYSICAL ED MAJOR	Assumptions (can be changed)					
retention rate	*0.875*					
tuition ($250*30)	*7,500*					
tuition discount	*30%*					
discounted tuition	5,250					
enrollment:						
year 1		20	18	15	13	graduated
year 2			20	18	15	13
year 3				20	18	15
year 4					20	18
year 5 (steady state)						20
total enrollment (rounded to nearest integer)		20	38	53	66	66
discounted tuition revenue		**$105,000**	**$196,875**	**$277,266**	**$347,607**	**$347,607**
specific expenses related to major:						
teaching lab (1-time start-up)	*$40,000*					
space renovation (1-time start-up)	*$25,000*					
adjunct faculty teaching	*$1,500/credit*	9,000	9,000	9,000	9,000	9,000
lecturer/internship coordinator	*$40,000*	40,000	40,000	40,000	40,000	40,000
tenure-track faculty	*$55,000*			55,000	55,000	55,000
dept. SS&E increase	*$5,000*	5,000	5,000	5,000	5,000	5,000
library	*$1,500*	500	500	500		
fringes (10% or 42.4%)		17,860	17,860	40,640	40,640	40,640
additional gen ed expenses (UN, math, phys, chem, SS, HU, CS)						
$30,000 per 20 freshmen		30,000	30,000	30,000	30,000	30,000
$30,000 per 20 sophomore			30,000	30,000	30,000	30,000
total start-up (1-time)		25,000	40,000			

total expenses	**$109,500**	**$154,500**	**$169,500**	**$169,000**	**$169,000**
net profit/loss	**-$23,360**	**$24,515**	**$67,126**	**$137,967**	**$137,967**

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