CEHD 933

NOT FOR USE FOR CURRICULAR COURSE CHANGES
REQUEST FOR PROGRAM IMPROVEMENTS

NOTE: Changes to programs may require course changes, which must be processed electronically. Any questions should be directed to Associate Provost David Reinhold at 7-4564 or david.reinhold@wmich.edu

DEPARTMENT: HPHE **COLLEGE:** Education and Human Development
PROPOSED EFFECTIVE FALL YEAR: 2019

PROPOSED IMPROVEMENTS: *Academic Program Proposed Improvements*

- ☐ New degree*
- ☐ New major*
- ☐ New curriculum*
- ☐ New concentration*
- ☐ New certificate
- ☒ Revised major
- ☐ New minor
- ☐ Revised minor
- ☐ Admission requirements
- ☐ Graduation requirements
- ☐ Deletion (required by others)
- ☐ Deletion (not required by others)
- ☒ Change in Title
- ☐ Transfer

☐ Other (explain**) **** Other:**

Title of degree, curriculum, major, minor, concentration, or certificate: MS Exercise and Sport Medicine: Exercise Physiology. Change to: MS Exercise Science

Chair, Department Curriculum Committee: [signature] **Date** 10-12-18

CHECKLIST FOR DEPARTMENT CHAIRS/DIRECTORS

- ☑ For new programs and other changes that have resource implications, the dean has been consulted.
- ☑ When appropriate, letters of support from department faculty are attached.
- ☑ When appropriate, letters of support from other departments in the same college are attached.
- ☑ When appropriate, letters of support from other college deans, whose programs/courses may be affected by the change, are attached.
- ☐ The proposal has been reviewed by HIGE for possible implications for international student enrollment.
- ☑ The proposal is consistent with the departmental assessment plan, and identifies measurable learning outcomes for assessment.
- ☑ Detailed resource plan is attached where appropriate.
- ☑ All questions attached have been completed and supporting documents are attached.
- ☑ The proposal is written and complete as outlined in the Faculty Senate guidelines and the curriculum change guides.

Chair/Director: [signature] **Date** 10/15/18

RECEIVED
OCT 15 REC'D
College of Education

CHECKLIST FOR COLLEGE CURRICULUM COMMITTEE

- ☑ The academic quality of the proposal and the faculty involved has been reviewed.
- ☑ Detailed resource plan is attached where appropriate.
- ☑ Consistency between the proposal and the relevant catalog language has been confirmed.
- ☑ The proposal has been reviewed for effect on students transferring from Michigan community colleges. Detailed information on transfer articulation must be included with undergraduate proposals.
- ☑ Consistency between the proposal and the College and department assessment plans has been confirmed.
- ☑ Consistency between the proposal and the College and department strategic plans has been confirmed.
- ☑ All questions attached have been completed and supporting documents are attached.
- ☑ The proposal is written and complete as outlined in the Faculty Senate guidelines and the curriculum change guides.

Chair, College Curriculum Committee:	Date 10-23-18

NOT FOR USE FOR CURRICULAR COURSE CHANGES
REQUEST FOR PROGRAM IMPROVEMENTS

CHECKLIST FOR COLLEGE DEANS

☒ For new programs and proposed program deletions, the provost has been consulted.

☒ For new programs, letter of support from University Libraries Dean indicating library resource requirements have been met.

☒ When appropriate, letters of support from other college faculty and/or chairs are attached.

☒ When appropriate, letters of support from other college deans, whose programs/courses may be affected by the change, are attached.

☒ The proposal has been reviewed for implications for accreditation, certification, or licensure.

☒ Detailed resource plan is attached where appropriate.

☒ All questions attached have been completed and supporting documents are attached.

☒ The proposal is written and complete as outlined in the Faculty Senate guidelines and the curriculum change guides.

Dean: Mark Filter	Date 10-25-18

FOR PROPOSALS REQUIRING REVIEW BY:
GSC/USC; EPGC, GRADUATE COLLEGE, and/or FACULTY SENATE EXECUTIVE BOARD

☐ Return to Dean ☐ Forward to:	Curriculum Manager:	Date:
☐ Approve ☐ Disapprove	Chair, GSC/USC:	Date
☐ Approve ☐ Disapprove	Chair, EPGC:	Date
☐ Approve ☐ Disapprove	Graduate College Dean:	Date:
☐ Approve ☐ Disapprove	Faculty Senate President:	Date

☐ Approve ☐ Disapprove	Provost:	Date

NOT FOR USE FOR CURRICULAR COURSE CHANGES
REQUEST FOR PROGRAM IMPROVEMENTS

1. Explain briefly and clearly the proposed improvement:

   The proposed improvement will include 1) Program name change, 2) four course changes, 3) one new course and 4) changes to course requirements

2. Rationale. Give your reason(s) for the proposed improvement.

   The current degree, MS Exercise and Sport Medicine: Exercise Physiology has been in place for approximately 10 years or so. Since then a number of things have occurred that prompt this change: 1) This degree was first established with two concentrations, Exercise Physiology and Athletic Training. Athletic Training has gone on to become its own degree, thus having the title as it is currently, is no longer appropriate; 2) the need to update the curriculum is apparent by professional changes in the field as well as student requests and concerns; 3) new faculty have been hired that changes the expertise and allows for a greater breadth of offerings then was previously.

3. Effect on other colleges, departments, or programs. If consultation with others is required, attach evidence of consultation and support. If objections have been raised, document the resolution. Demonstrate that the program you propose is not a duplication of an existing one.

   The proposed change does not affect other programs, departments or colleges.

4. Effect on your department's programs. Show how the proposed change fits with other departmental offerings.

   There will be no effect on departmental offerings with the exception of one additional new class in the program.

5. Alignment with college's and department's strategic plan, mission, and vision.

   As this is a change to an existing degree program, all previous alignment with college and department's strategic plan, mission and vision remain.

6. Effects on enrolled students: Are program conflicts avoided? Will your proposal make it easier or harder for students to meet graduation requirements? Can students complete the program in a reasonable time? Show that you have considered scheduling needs and demands on students' time.

   It is expected that students will continue to meet graduation requirements on time. Currently students complete their course work by taking classes FALL>SPRING>SUMMER>FALL>SPRING and it is expected that this will continue with the revised program. We currently have 2 required courses that are offered every Summer, with the new revised curriculum we will continue to require 2 courses in the Summer. The rationale for offering courses in the summer is the same as it is now, that is all faculty who teach in this graduate program also teach in the heavily enrolled undergraduate program. To be able to have faculty teach in both programs, the graduate program has only been able to function by offering some of the required courses in the Summer.

7. Student or external market demand. What is your anticipated student audience? What evidence of student or market demand or need exists? What is the estimated enrollment? What other factors make your proposal beneficial to students?

   As this is a revised curriculum of an already established program we can simply state that enrollment has been between approximately 20-30 students/ year over the past 10 years. Currently labor statistics show that employment for exercise science related careers to be "faster than average" between 2014-2024. Students who study exercise science, particularly exercise physiology and biomechanics often go on to careers in the health fields such as physical therapy, occupational therapy, kinesiotherapy, medical school, chiropractic school. Others may go on to biomedical engineering, prosthetics, research and development in exercise and sport related companies etc.

8. Effects on resources. Explain how your proposal would affect department and University resources, including faculty, equipment, space, technology, and library holdings. If proposing a new program, include a letter and/or email of support from the university libraries affirming that the library resource issues have been reviewed. Tell how you will staff additions to the program. If more advising will be needed, how will you provide for it? What will be the initial one-time costs and the ongoing base-funding costs for the proposed program? (Attach additional pages, as necessary.)

The current resources are adequate in terms of equipment, space, technology, and library holdings. However, because we will be offering an additional biomechanics course, Dr. Lee will need to teach one less undergraduate course during the Fall Semester, this will most likely require a part-time instructor be hired or to have a graduate teaching assistant assigned to this class.

9. List the learning outcomes for the revised or proposed major, minor, or concentration. The department will use these outcomes for future assessments of the program.

    a. **Demonstrate an understanding of exercise physiology and biomechanics beyond the undergraduate level.**
    b. **Demonstrate the ability to critically evaluate scientific literature and apply the scientific method in the exercise sciences.**
    c. **Interpret empirical data and communicate effectively in an academic setting and/ or professional meeting**
    d. **Be able to apply knowledge of the exercise sciences through successful oral and written presentations**
    e. **Demonstrate professional behavior and effective written and oral communication skills in academic and/or professional settings**
    f. **Demonstrate an understanding of exercise physiology and biomechanical concepts related to human performance by evaluating current research related to biomechanics and exercise physiology**
    g. **Demonstrate the ability to use, calibrate and operate a variety of exercise physiology and biomechanical laboratory equipment**

10. Describe how this change is a response to assessment outcomes that are part of a department or college assessment plan or informal assessment activities.

    The degree was first established with two concentrations, Exercise Physiology and Athletic Training. Athletic Training has gone on to become its own degree, thus having the title as is, is no longer appropriate.

    The need to update the curriculum was determined by a review of professional changes in the field, other programs in the field, as well as, student requests and concerns.

    New faculty have been hired since the adoption of the current program. As the change in expertise of the faculty has occurred this has allowed us to offer a greater breadth of offerings then was previously possible.

    The Department Chair's verbal request to begin offering more courses in biomechanics.

11. (Undergraduate proposals only) Describe in detail how this change affects transfer articulation for Michigan community colleges. For new majors or minors, describe transfer guidelines to be developed with Michigan community colleges. For revisions to majors or minors, describe necessary revisions to Michigan community college guidelines. Department chairs should seek assistance from college advising directors or from the admissions office in completing this section.

    NA

12. Please offer both "Current Catalog Language" and "Proposed Catalog Language" if there is to be a change in the catalog description for a given program. For the "current" language, please copy and paste relevant language from the most current catalog and for the "proposed" language, please share the exact proposed new catalog language. As possible, bold or otherwise note the key changes in the new proposed catalog language.

OLD CATALOG DESCRIPTION

Master of Science in Exercise and Sports Medicine (36 credit hours)

Advisor: Christopher C. Cheatham – Exercise Physiology

Room 4021 Student Recreation Center

The Exercise Physiology program is designed to provide the student with an advanced understanding of the physical and functional adaptations to movement. The program integrates traditional lecture-based courses with hands-on laboratory experiences. One of the major strengths of the program is the combining of the practical application of exercise physiology with current research findings. Students may also individualize their program of study by choosing from a variety of elective courses offered within many departments across the university. Graduates pursue careers in fitness, athletic, and clinically bases settings. Graduates also pursue advanced degrees in exercise physiology or other professional programs such as physical therapy, medicine, etc.

Admission Requirements

Meet Graduate College admission standards, successful completion of an undergraduate major or minor or equivalent appropriate for intended emphasis area, submission of GRE scores, submission of a letter of intent to include education, career and/or research goals and philosophy, a current resume, and three letters of recommendation.

Research Cognate (6 hours)

HPEH 6900 – Research Procedures

HPHE 6920 – Analytical Techniques

Required courses (18 hours)

HPHE 6700 – Exercise Physiology I

HPHE 6710 – Exercise Physiology II

HPHE 6720 – Lab Techniques in Exercise Science

HPHE 6730 – Biomechanics

HPHE 6740 – Clinical Exercise Physiology

HPHE 6760 – Exercise Science Seminar

Capstone Experience (12 hours) Choose one of the following:

Thesis Option

HPHE 7000 – Thesis Credits: 6 hours

Electives with advisor approval Credits: 6 hours

Non-Thesis Option

HPHE 7100 – Independent Research Credits: 2 to 6 hours (Credits: 3 hours needed) Electives with advisor approval Credits: 9 hours

OR

HPHE 7120 – Professional Field Experience Credits: 1 to 12 hours (Credits: 3 hours needed) Electives with advisor approval Credits: 9 hours

NEW CATALOG DESCRIPTION

Master of Science in Exercise Science (36 credit hours)

Advisor: Timothy J. Michael – Exercise Science

Room 1054 Student Recreation Center

The Exercise Science program is designed to provide the student with a detailed understanding of the physical and functional adaptations to movement through advanced study of exercise physiology and biomechanics. The program integrates traditional lecture-based courses with hands-on laboratory experiences. One of the major strengths of the program is the combining of the practical application of exercise science with current research findings in exercise physiology and biomechanics. Graduates pursue careers in fitness, athletic, and clinically based settings. Graduates also pursue advanced degrees in exercise physiology, biomechanics or other professional programs such as physical therapy and medicine.

Admission Requirements

Meet Graduate College admission standards, successful completion of an undergraduate major or minor or equivalent appropriate for intended degree, submission of GRE scores, submission of a letter of intent to include education, career and/or research goals and philosophy, a current resume, and three letters of recommendation.

Research (6 Credits)

HPHE 6900	Research Procedures
HPHE 6920	Analytical Techniques

Required Courses (21 credits)

HPHE 6700	Exercise Metabolism and Skeletal Muscle
HPHE 6710	Cardiopulmonary and Environmental Exercise Physiology
HPHE 6720	Laboratory Techniques: Exercise Physiology
HPHE 6730	Biomechanics
HPHE 6740	Neuromuscular Control
HPHE 6750	Laboratory Techniques: Biomechanics
HPHE 6760	Exercise Science Seminar

Capstone (9 credits)

HPHE 7000	Thesis (6 credits) + Elective (3 credits)
HPHE 7100	Independent Research (3 credits) + 2 Elective (6 credits)
HPHE 7120	Professional Fieldwork (3 credits) + 2 Elective (6 credits)

OLD CATALOG DESCRIPTION

HPHE 6700 Exercise Physiology I

This course is the first of a series of two courses that will give the graduate student a much more in depth study of the various physiological processes and how they are transformed and manipulated by external stresses (e.g., work, exercise, disease, environment, etc.).

3 hours

NEW CATALOG DESCRIPTION

HPHE 6700 Exercise Metabolism and Skeletal Muscle

The course will examine the structure and function of skeletal muscle during exercise and sport. Additionally, this course will delve into the biochemistry and metabolic regulation that must be undertaken to perform exercise and sports at varying levels of intensities and durations.

3 hours

OLD CATALOG DESCRIPTION

HPHE 6710 Exercise Physiology II

This course is the second of a series of two courses that will give the graduate student a much more in depth study of the various physiological processes and how they are transformed and manipulated by external stresses (e.g., work, exercise, disease, environment, etc.).

3 hours

NEW CATALOG DESCRIPTION

HPHE 6710 Cardiopulmonary and Environmental Exercise Physiology

This course will cover the physiological responses (both the acute effects and chronic adaptations) during exercise, with specific focus on the cardiopulmonary system. Additionally, this course will examine the physiological responses to exercise in different environmental conditions such as high altitude, heat, cold, hyperbaria, & microgravity.

3 hours

OLD CATALOG DESCRIPTION

HPHE 6720 Laboratory Techniques in Exercise Science

The purpose of this course is to educate the graduate student in the areas of measurement and laboratory techniques used in the assessment of exercise and/or athletic performance. Specifically, the student will study the process and procedures used to determine a variety of parameters used in the study of exercise and sport performance. This information will then be used to help qualify and quantify exercise and sport performance. Prerequisite: Permission of instructor.

3 hours

NEW CATALOG DESCRIPTION

HPHE 6720 Laboratory Techniques: Exercise Physiology

The purpose of this course is to educate the graduate student in the areas of measurement and laboratory techniques used in the assessment of physiology as it relates to exercise and/or athletic performance. Specifically, the student will study the processes and procedures used to determine a variety of physiological parameters used in the study of exercise and sport performance. This information will then be used to help qualify and quantify exercise and sport performance. Prerequisite: HPHE 6700, 6710, 6740.

3 hours

OLD CATALOG DESCRIPTION

HPHE 6730 Biomechanics

This course consists of an in-depth discussion of biomechanics as it is applied to sports and other related physical activities.

3 hours

NEW CATALOG DESCRIPTION

HPHE 6730 NO CHANGES

OLD CATALOG DESCRIPTION

HPHE 6740 Clinical Exercise Physiology

The purpose of this course is to instruct the student in the pathophysiology of various disease states and how that change in physiology affects the evaluation and prescription of exercise for these populations. Special attention will be given to the ACSM KSAs for Clinical Exercise Specialists and Registered Clinical Exercise Physiologists. Open to graduate students only.

3 hours

NEW CATALOG DESCRIPTION

HPHE 6740 Neuromuscular Control

The course will examine the theories, processes, and structures that determine the execution of our voluntary movements and how we control this movement. This will entail a review of neurophysiological components, a review of reflexive actions necessary to control skeletal movement and theories that describe how motor functions are controlled. Additionally, there will be discussions of how we can research and study motor control and test the theories involved.

3 hours

NEW CATALOG DESCRIPTION

HPHE 6750 Laboratory Techniques: Biomechanics

The purpose of this course is to educate the graduate student in the areas of measurement and laboratory techniques used in the assessment of biomechanics as it relates to exercise and/or athletic performance. Specifically, the student will study the processes and procedures used to determine a variety of biomechanical parameters used in the study of exercise and sport performance. This information will then be used to help qualify and quantify exercise and sport performance. Prerequisites: HPHE 6730, 6740.

3 hours

OLD CATALOG DESCRIPTION

HPHE 6760 Exercise Science Seminar

Seminar on the most current research problems presented in exercise science related journals (within the last 3 years). Students and instructor will present and debate these problems to stay current in the research literature and to learn new perspectives and theories. Also, included in this course is a look at the typical research designs used by researchers in the field. Prerequisite: Permission of instructor.

3 hours

NEW CATALOG DESCRIPTION

HPHE 6760 NO CHANGES