

UNIVERSITY FACULTY SENATE FORMS

Academic Program Approval

This form is a routing document for the approval of new and revised academic programs. Proposing department should complete this form. For more information, call the Faculty Senate Office at 831-2921.

Submitted by: James G. Richards phone number 8372

Action: Add 4+1 option to M.S. in Exercise Science, Biomechanics Concentration
(Example: add major/minor/concentration, delete major/minor/concentration, revise major/minor/concentration, academic unit name change, request for permanent status, policy change, etc.)

Effective term 06F
(use format 04F, 05W)

Current degree BS, MS
(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

Proposed change leads to the degree of: BS, MS
(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

Proposed name: 4+1 Degree in Exercise Science, Biomechanics Concentration
Proposed new name for revised or new major / minor / concentration / academic unit
(if applicable)

Revising or Deleting:

Undergraduate major / Concentration: _____
(Example: Applied Music – Instrumental degree BMAS)

Undergraduate minor: _____
(Example: African Studies, Business Administration, English, Leadership, etc.)

Graduate Program Policy statement change: _____
(Attach your Graduate Program Policy Statement)

Graduate Program of Study: _____
(Example: Animal Science: MS Animal Science: PHD Economics: MA Economics: PHD)

Graduate concentrations: _____

List program changes for curriculum revisions:

The 4+1 degree program in Exercise Science combines the 4-year B.S. degree and the 2-year M.S. degree into an accelerated 5 year program. The 1-year savings is achieved by utilizing a portion of the undergraduate electives for graduate coursework, and by replacing three required undergraduate courses with three corresponding graduate courses. Specifically, STAT200 (Basic Statistical Practice) will be replaced by HESC602 (Elementary Statistics), HESC400 (Research Methods) will be replaced by HESC601 (Research Methods), and HESC427 (Biomechanics II) will be replaced by HESC690 (Biomechanics Methods).

List new courses required for the new or revised curriculum:

(Be aware that approval of the curriculum is dependent upon these courses successfully passing through the Course Challenge list. If there are no new courses enter "None")

Change concentration requirement of MATH 349, Elementary Linear Algebra to:
Either MATH 341, Differential Equations with Linear Algebra I
OR MATH 349, Elementary Linear Algebra.

HESC 803 (Laboratory Instrumentation) will be renumbered to HESC689 to enable undergraduate enrollment during the student's 4th year of study.

Other affected units:

(List other departments affected by this new or revised curriculum. Attach permission from the affected units. If no other unit is affected, enter "None")

We have a letter of support from the chairperson of the Math Department.

Rationale:

(Explain your reasons for creating, revising, or deleting the curriculum or program.)

Creation of the 4+1 curriculum was based on the fact that the vast majority of undergraduate Exercise Science students graduating with a concentration in Biomechanics pursue graduate education, and those who enter the workforce typically have a Master's degree in Biomechanics. The 4+1 curriculum would allow these students to accelerate the timetable for the B.S. and M.S. requirements and position them to obtain doctoral degrees or to start a career in a shorter period of time. More importantly, by exploiting common areas of coursework between the current B.S. and M.S. curricula, the compressed timetable would be achieved without sacrificing requirements for either degree.

Program Requirements:

(Show the new or revised curriculum as it should appear in the Course Catalog. If this is a revision, be sure to indicate the changes being made to the present curriculum.)

FIVE-YEAR COMBINED B.S./M.S. IN EXERCISE SCIENCE

Qualified undergraduate students in the Exercise Science major may apply for admission to the 4+1 option, which combines selected requirements of the undergraduate and master's degree programs in Exercise Science. Whereas the traditional programs for the B.S. and M.S. degrees in Exercise Science involve 4 years of undergraduate work and 2 years of graduate work, the 4+1 option enables students to earn both degrees in a 5 year period. Students who complete the 4+1 program will graduate with both a Bachelor of Science degree and a Master of Science degree in Exercise Science with a concentration in Biomechanics, Exercise Physiology, or Motor Control.

APPLICATION PROCEDURE

Students may apply for admission to the 4+1 program at the end of the sophomore year. The application process requires submission of a completed graduate application form for review by the Exercise Science Graduate Program Committee. Initial admission will be based upon the student's ability to meet the following recommended entrance criteria:

- Combined math and verbal SAT scores of at least 1100, with a Math SAT score of at least 650 for students applying to the biomechanics concentration
- An undergraduate GPA of at least 3.25
- Completion of all courses specified for the freshman and sophomore years in the concentration program of study
- At least 50 documented hours of volunteer time in exercise science related laboratory settings

- Submission of an in-person writing sample, to be obtained during a formal interview with a faculty advisory committee
- Acceptance by a prospective primary advisor for the master's thesis

MAINTAINING STATUS WITHIN THE PROGRAM

Upon admission into the program and prior to the start of the junior year of study, the student will meet with their graduate advisor and submit a planned program of study, including all elective courses, to the Exercise Science Graduate Program Committee. Planned programs of study are due by the end of fall semester of the student's junior year.

Continuation in the 4+1 program is contingent upon maintaining a cumulative GPA of at least 3.0 in all undergraduate and graduate coursework and demonstrating satisfactory progress in the program. Satisfactory progress includes following the prescribed program of study and, beginning in the fourth year, making satisfactory progress toward the master's thesis. (A thesis proposal will be completed in HESC601 during the fall semester of the senior year.)

Each student's progress and GPA will be evaluated at the end of each academic year by the student's advisor and the Exercise Science Graduate Program Committee. Students who fail to meet the minimum GPA requirements or fail to show progress toward the degree will be placed into the B.S. degree program corresponding with their area of concentration.

**DEGREE: 4+1 BACHELOR OF SCIENCE, MASTER OF SCIENCE
MAJOR: EXERCISE SCIENCE
CONCENTRATION: BIOMECHANICS**

CURRICULUM	CREDITS
UNIVERSITY REQUIREMENTS (6 Credits)	
ENGL 110 Critical Reading and Writing (minimum grade C-).....	3
Multicultural course: Three credits in an approved course or courses stressing multi-cultural, ethnic, and/or gender-related course content	3
BREADTH REQUIREMENTS (38 Credits)	
<i>Humanities and Communication Skills</i>	9
<i>Social Sciences</i>	
PSYC 100 General Psychology	3
PSYC 325 Child Psychology	
Or	
PSYC 334 Abnormal Psychology	3
<i>Natural/Biological Sciences and Mathematics</i>	
BISC 207 Introductory Biology I	4
BISC 208 Introductory Biology II	4
CHEM 103 General Chemistry	4
CHEM 104 General Chemistry	4
MATH 241 Analytic Geometry and Calculus A	4
NTDT 200 Nutrition Concepts	3
MAJOR REQUIREMENTS (19-20 Credits, minimum grade C- in each except HESC 205)	
BISC 276 Human Physiology	4
Or	
BISC 306 General Physiology	3
HESC 205 Freshman Seminar in Exercise Science (PF)	1
HESC 310 Pre-Clinical Anatomy and Physiology	4

HESC 375 Neuromechanical Basis of Human Movements.....	3
HESC 426 Biomechanics I	4
HESC 430 Physiology of Activity.....	3
HESC 431 Physiology of Activity Lab.....	1

CONCENTRATION REQUIREMENTS (51 Credits, minimum grade C- in each)

CISC 105 General Computer Science.....	3
HESC 485 Research in Exercise Science.....	3
HESC 601 Research Methods.....	3
HESC 602 Elementary Statistics.....	3
HESC 603 Seminar in Exercise Science (4 semesters).....	0
HESC 687 Seminar in Biomechanics	3

Or

HESC 688 Electromyographic Kinesiology	3
HESC 690 Biomechanics Methods.....	3
HESC 803 Laboratory Instrumentation (being renumbered as HESC 689)	3
HESC 869 Thesis in Biomechanics	6
MATH 242 Analytic Geometry and Calculus B.....	4
MATH 341 Differential Equations with Linear Algebra I.....	3

Or

MATH 349 Linear Algebra	3
MEEG 112 Statics.....	3
MEEG 211 Dynamics	3
PHYS 207 Fundamentals of Physics I.....	4
PHYS 208 Fundamentals of Physics II.....	4

Plus a minimum of 2 of the following courses referred to as Graduate Area B :

BISC 699 Computers in Biological Research.....	3
BMSC 667 Mathematics for Biomechanics.....	3
EDST 861 Introduction to Statistical Inference	3
EDST 862 Principles of Experimental Design	3
EDUC 660 Education Statistics and Measurement.....	3
HESC 607 Motor Learning and Control.....	3
HESC 650 Life Span Motor Development	3
HESC 691 Gait Laboratory Internship	3
HESC 800 Advanced Physiology of Exercise (being renumbered as HESC655)	3
MEEG 612 Biomechanics of Human Movement	3
PHYT 604 Functional Anatomy and Biomechanics.....	3
PHYT 613 Advanced Orthopedics	3
STAT 615 Design and Analysis of Experiments	3
STAT 617 Multivariate Methods.....	3

ELECTIVES

<i>Graduate Level Course Elective</i>	<i>3</i>
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After required courses are completed, sufficient elective credits must be taken to meet the minimum credits required for the degree.

CREDITS TO TOTAL A MINIMUM OF..... 125

**4+1 DEGREE PROGRAM REQUIREMENTS
BS AND MS IN EXERCISE SCIENCE (Biomechanics Concentration)**

Freshman Year

Fall Semester		Spring Semester	
HESC205	1	Breadth (ENGL110)	3
Breadth (MATH241)	4	Breadth (CHEM104)	4
Breadth (CHEM103)	4	Breadth (BISC208)	4
Breadth (BISC207)	<u>4</u>	MATH242	<u>4</u>
Total	13	Total	15

Sophomore Year

MATH341 or 349	3	HESC310	4
BISC276 or BISC306	4/3	Breadth (PSYC100)	4
PHYS207	4	PHYS208	4
Breadth (NTDT200)	<u>3</u>	MEEG112	<u>3</u>
Total	14/13	Total	15

Junior Year

CISC105	3	HESC430	3
HESC375	3	HESC431	1
HESC426	4	HESC602	3
MEEG211	<u>3</u>	Breadth (Humanities/Communication)	3
Total	13	HESC 485	<u>3</u>
		Total	13

Senior Year

HESC603 Seminar	0	HESC603 Seminar	0
HESC803 (Renumber to 689)	3	Breadth (multicultural)	3
Breadth (Humanities/Communication)	3	Breadth (Humanities/Communication)	3
Breadth (PSYC325 or 334)	3	HESC690	3
HESC601	<u>3</u>	<i>Graduate Elective</i>	3
Total	12	Total	12

5th Year

HESC603 Seminar	0	HESC603 Seminar	0
Graduate Area B	3	Graduate Area B	3
HESC687 or HESC688	3	HESC869 (Thesis)	<u>3</u>
HESC 869 (Thesis)	<u>3</u>	Total	6
Total	9		

NOTE: Electives not shown. Sufficient elective courses must be taken for students to be enrolled in at least 12 credits each semester for the first four years and for the total number of credits for the degree to be at least 125.

ROUTING AND AUTHORIZATION: (Please do not remove supporting documentation.)

Department Chairperson *Susan J. Hall* Date 11/18/05
Dean of College _____ Date _____
Chairperson, College Curriculum Committee *W. D. Allen* Date 12/5/05
Chairperson, Senate Com. on UG or GR Studies _____ Date _____
Chairperson, Senate Coordinating Com. _____ Date _____
Secretary, Faculty Senate _____ Date _____
Date of Senate Resolution _____ Date to be Effective _____
Registrar _____ Program Code _____ Date _____
Vice Provost for Academic Programs & Planning _____ Date _____
Provost _____ Date _____
Board of Trustee Notification _____ Date _____

Revised 11/03/04 /khs