**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:** \_\_Chris Knight\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_phone number\_\_\_\_6175\_\_\_\_\_\_\_\_

**Department:** \_\_\_KAAP\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_email address caknight@udel.edu

**Date: \_\_\_\_\_\_\_\_\_Signed: 10.22.14\_\_\_\_\_ Revised APA form 2.16.15\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Action: \_\_\_\_Revise MS 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\_\_\_\_\_\_\_15F\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

(use format 04F, 05W)

**Current degree\_\_\_\_\_MS\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

**Proposed change leads to the degree of: \_\_\_\_\_\_\_\_MS\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

**Proposed name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

(**Must attach** your Graduate Program Policy Statement)

 **Graduate Program of Study:\_\_\_\_\_MS Exercise Science\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

(Example: Animal Science: MS Animal Science: PHD Economics: MA Economics: PHD)

 **Graduate minor / concentration:\_\_\_Biomechanics\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Note: all graduate studies proposals must include an electronic copy of the Graduate Program Policy Document, highlighting the changes made to the original policy document.**

**List new courses required for the new or revised curriculum. How do they support the overall program objectives of the major/minor/concentrations)?**

 (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”)

**NONE**

**Explain, when appropriate, how this new/revised curriculum supports the 10 goals of undergraduate education:** [**http://www.ugs.udel.edu/gened/**](http://www.ugs.udel.edu/gened/)

NA - Graduate program.

**Identify other units affected by the proposed changes:**

(Attach permission from the affected units. If no other unit is affected, enter “None”)

None.

**Describe the rationale for the proposed program change(s):**

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

1. Removal of KAAP 603 Seminar.

2. Revised credit subtotals in description.

**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 current curriculum and **include a side-by-side comparison** of the credit distribution before and after the proposed change.)

|  |  |
| --- | --- |
| Current | Proposed |
| **EXERCISE SCIENCE (MS)**Telephone: (302) 831-8006http://[www.udel.edu/kaap](http://www.udel.edu/kaap/)Faculty Listing: <http://www.udel.edu/chs/facultystaff/index.html#kaap>**Program Overview**The MS program in Exercise Science is supported with well-equipped research facilities, including three-dimensional video capabilities, electromyography, and force platforms, as well as equipment for measurement of cardiovascular and cardiopulmonary function, bone mineral density, body composition, functional muscular capacity, blood lactate, and motor unit discharge. Graduate students in this program are expected to participate in ongoing faculty-directed research programs.**Admission Requirements**The Exercise Science Graduate Program Committee makes admission decisions. Students will be admitted to the program based upon enrollment availability and their ability to meet the following recommended entrance requirements. 1. Baccalaureate degree from an accredited college or university
2. Acceptable undergraduate transcripts including an undergraduate GPA of 3.0 or higher
3. The equivalent of an undergraduate major in kinesiology, exercise science or related discipline
4. On the 130-170 scale, GRE scores are generally above 151 for Quantitative Reasoning and abaoe 150 for Verbal Reasoning.
5. Three letters of recommendation indicating the capability, interest, maturity, and scholarly potential of the candidate for graduate study
6. Acceptance by a primary advisor

Recommended prerequisites for Biomechanics include: * Math through calculus
* Anatomy
* One year of physics
* Computer programming experience

Recommended prerequisites for Exercise Physiology and Clinical Exercise Physiology include: * One year of biology
* Two years of chemistry
* One year of physics

Recommended prerequisites for Motor Control and Sports Medicine include: * Math through calculus
* Anatomy and physiology
* One year of biological or physical science

Admission is selective and competitive, based on the number of well-qualified applicants and the limits of available faculty and facilities. Those who meet stated minimum academic requirements are not guaranteed admission, nor are those who fail to meet those requirements necessarily precluded from admission, if they offer other appropriate strengths. See the Admission Information chapter in this catalog for additional information.**MASTER OF SCIENCE IN EXERCISE SCIENCE**The Master of Science with a major in Exercise Science requires 27 credits of coursework at the 600 or 800 level, and 6 credits of thesis. The 27 credits of coursework are specified in the individual planned programs of study, and must include 18-21 credits of coursework in courses within Exercise Science, and 6-9 credits of coursework in cognate areas as specified by the requirements for each concentration.**Master of Science in Exercise ScienceConcentration: Biomechanics**Biomechanics is an interdisciplinary science that objectively interprets movement in living organisms. Emphasis is placed on techniques of measuring kinematic and kinetic characteristics of living organisms and on mathematical methods of analysis. Students in the MS program in biomechanics are required to conduct research and complete a thesis.**Credit Requirements:**Credits within Exercise Science - 18-21Credits in Cognate Areas - 6-9Thesis - 6Total number of required credits - 33**A. Courses Required Within Exercise Science**

|  |  |  |
| --- | --- | --- |
| [KAAP 601](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap601&year_from_to=20142015) | Research Methods | 3 |
| [KAAP 602](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap602&year_from_to=20142015) | Data Analysis and Interpretation in Health Sciences | 3 |
| [~~KAAP 603~~](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap603&year_from_to=20142015) | ~~Seminar in Exercise Science (3 semesters)~~ | ~~3~~ |
| [KAAP 627](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap627&year_from_to=20142015) | Biomechanical Methods | 3 |
| [KAAP 617](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap617&year_from_to=20142015) | Introduction to Laboratory Instruments | 3 |

At least one of the following courses:

|  |  |  |
| --- | --- | --- |
| [KAAP 687](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap687&year_from_to=20142015) | Seminar in Biomechanics | 3 |
| [KAAP 688](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap688&year_from_to=20142015) | Electromyographic Kinesiology | 3 |

**Total Credits from Area A - 18-21****B. A minimum of 2 courses from the following list:**

|  |  |  |
| --- | --- | --- |
| [BMSC 686](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=bmsc686&year_from_to=20142015) | Mathematics for Biomechanics | 3 |
| [KAAP 650](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap650&year_from_to=20142015) | Life Span Motor Development | 3 |
| [KAAP 655](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap655&year_from_to=20142015) | Advanced Physiology of Exercise | 3 |
| [KAAP 607](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap607&year_from_to=20142015) | Motor Learning and Control | 3 |
| [KAAP 666](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap666&year_from_to=20142015) | Special Problem | 3 |
| [MEEG 612](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=meeg612&year_from_to=20142015) | Biomechanics of Human Movement | 3 |
| [MEEG 682](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=MEEG682&year_from_to=20142015) | Clinical Biomechanics | 3 |
| [MEEG 683](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=meeg683&year_from_to=20142015) | Orthopedic Biomechanics | 3 |
| [STAT 615](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=stat615&year_from_to=20142015) | Design and Analysis of Experiments | 3 |
| [STAT 617](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=stat617&year_from_to=20142015) | Multivariate Methods | 3 |
| [EDUC 862](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=educ862&year_from_to=20142015) | Design and Analysis of Experiments | 3 |
| [PHYT 604](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=phyt604&year_from_to=20142015) | Functional Anatomy and Biomechanics | 3 |

**Total Credits from Area - B 6-9****C.**

|  |  |  |
| --- | --- | --- |
| [KAAP 869](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap869&year_from_to=20142015) | Thesis in Biomechanics | 6 |

**Total Credits from Area C - 6**

|  |  |  |
| --- | --- | --- |
|  |  |  |

 | **EXERCISE SCIENCE (MS)**Telephone: (302) 831-8006http://[www.udel.edu/kaap](http://www.udel.edu/kaap/)Faculty Listing: <http://www.udel.edu/chs/facultystaff/index.html#kaap>**Program Overview**The MS program in Exercise Science is supported with well-equipped research facilities, including three-dimensional video capabilities, electromyography, and force platforms, as well as equipment for measurement of cardiovascular and cardiopulmonary function, bone mineral density, body composition, functional muscular capacity, blood lactate, and motor unit discharge. Graduate students in this program are expected to participate in ongoing faculty-directed research programs.**Admission Requirements**The Exercise Science Graduate Program Committee makes admission decisions. Students will be admitted to the program based upon enrollment availability and their ability to meet the following recommended entrance requirements. 1. Baccalaureate degree from an accredited college or university
2. Acceptable undergraduate transcripts including an undergraduate GPA of 3.0 or higher
3. The equivalent of an undergraduate major in kinesiology, exercise science or related discipline
4. On the 130-170 scale, GRE scores are generally above 151 for Quantitative Reasoning and above 150 for Verbal Reasoning.
5. Three letters of recommendation indicating the capability, interest, maturity, and scholarly potential of the candidate for graduate study
6. Acceptance by a primary advisor

Recommended prerequisites for Biomechanics include: * Math through calculus
* Anatomy
* One year of physics
* Computer programming experience

Recommended prerequisites for Exercise Physiology and Clinical Exercise Physiology include: * One year of biology
* Two years of chemistry
* One year of physics

Recommended prerequisites for Motor Control and Sports Medicine include: * Math through calculus
* Anatomy and physiology
* One year of biological or physical science

Admission is selective and competitive, based on the number of well-qualified applicants and the limits of available faculty and facilities. Those who meet stated minimum academic requirements are not guaranteed admission, nor are those who fail to meet those requirements necessarily precluded from admission, if they offer other appropriate strengths. See the Admission Information chapter in this catalog for additional information.**MASTER OF SCIENCE IN EXERCISE SCIENCE**The Master of Science with a major in Exercise Science requires 24 credits of coursework at the 600 or 800 level, and 6 credits of thesis. The 24 credits of coursework are specified in the individual planned programs of study, and must include 15-18 credits of coursework in courses within Exercise Science, and 6-9 credits of coursework in cognate areas as specified by the requirements for each concentration. A total of 30 credits is required to complete the degree.**Master of Science in Exercise ScienceConcentration: Biomechanics**Biomechanics is an interdisciplinary science that objectively interprets movement in living organisms. Emphasis is placed on techniques of measuring kinematic and kinetic characteristics of living organisms and on mathematical methods of analysis. Students in the MS program in biomechanics are required to conduct research and complete a thesis.**Credit Requirements:**

|  |  |
| --- | --- |
| Credits within Exercise Science | 15-18 |
| Credits in Cognate Areas | 6-9 |
| Thesis | 6 |
| Total number of required credits | 30 |

**A. Courses Required Within Exercise Science**

|  |  |  |
| --- | --- | --- |
| [KAAP 601](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap601&year_from_to=20142015) | Research Methods | 3 |
| [KAAP 602](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap602&year_from_to=20142015) | Data Analysis and Interpretation in Health Sciences | 3 |
| [KAAP 627](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap627&year_from_to=20142015) | Biomechanical Methods | 3 |
| [KAAP 617](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap617&year_from_to=20142015) | Introduction to Laboratory Instruments | 3 |

At least one of the following courses:

|  |  |  |
| --- | --- | --- |
| [KAAP 687](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap687&year_from_to=20142015) | Seminar in Biomechanics | 3 |
| [KAAP 688](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap688&year_from_to=20142015) | Electromyographic Kinesiology | 3 |

**Total Credits from Area A – 15-18****B. A minimum of 2 courses from the following list:**

|  |  |  |
| --- | --- | --- |
| [BMSC 686](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=bmsc686&year_from_to=20142015) | Mathematics for Biomechanics | 3 |
| [KAAP 650](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap650&year_from_to=20142015) | Life Span Motor Development | 3 |
| [KAAP 655](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap655&year_from_to=20142015) | Advanced Physiology of Exercise | 3 |
| [KAAP 607](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap607&year_from_to=20142015) | Motor Learning and Control | 3 |
| [KAAP 666](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap666&year_from_to=20142015) | Special Problem | 3 |
| [MEEG 612](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=meeg612&year_from_to=20142015) | Biomechanics of Human Movement | 3 |
| [MEEG 682](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=MEEG682&year_from_to=20142015) | Clinical Biomechanics | 3 |
| [MEEG 683](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=meeg683&year_from_to=20142015) | Orthopedic Biomechanics | 3 |
| [STAT 615](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=stat615&year_from_to=20142015) | Design and Analysis of Experiments | 3 |
| [STAT 617](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=stat617&year_from_to=20142015) | Multivariate Methods | 3 |
| [EDUC 862](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=educ862&year_from_to=20142015) | Design and Analysis of Experiments | 3 |
| [PHYT 604](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=phyt604&year_from_to=20142015) | Functional Anatomy and Biomechanics | 3 |

**Total Credits from Area - B 6-9****C.**

|  |  |  |
| --- | --- | --- |
| [KAAP 869](http://primus.nss.udel.edu/CourseDesc/courseInfo.jsp?course_id=kaap869&year_from_to=20142015) | Thesis in Biomechanics | 6 |

**Total Credits from Area C - 6** |

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

Department Chairperson Date

Dean of College Date

Chairperson, College Curriculum Committee\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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 Affairs & International Programs Date

Provost Date

Board of Trustee Notification Date

Revised 02/09/2009 /khs