

# BACHELOR OF SCIENCE (BS) DEGREE WITH A MAJOR IN SPORTS MEDICINE AND EXERCISE PHYSIOLOGY

## Program Learning Outcomes for the BS Degree with a Major in Sports Medicine and Exercise Physiology

Upon completing the BS degree with a major in Sports Medicine and Exercise Physiology, students will be able to:

1. Explain anatomical, physiological, and biomechanical principles related to sports medicine and exercise physiology, including prevention, diagnosis, and treatment of injuries and disease.
2. Translate fundamental principles of human nutrition to practical application in exercise and sport.
3. Apply theoretical and practical knowledge of psychological factors in sport, exercise, rehabilitation, and performance settings.
4. Demonstrate the ability to work in a collaborative environment and disseminate information about sports medicine and exercise physiology through the preparation and delivery of effective presentations employing proper use of technology.
5. Analyze sports science and exercise physiology research, including physical activity research, through identification and critical evaluation of relevant scientific literature.
6. Design and conduct research studies applying appropriate methodologies and ethical standards including collecting, analyzing, and interpreting data in sports medicine and exercise physiology related classroom and laboratory settings.
7. Obtain and apply foundational knowledge in the natural sciences to the human body's function, dysfunction, movement, and response to exercise.

## Requirements for the BS Degree with a Major in Sports Medicine and Exercise Physiology

For general university requirements, see [Graduation Requirements \(https://ga.rice.edu/undergraduate-students/academic-policies-procedures/graduation-requirements/\)](https://ga.rice.edu/undergraduate-students/academic-policies-procedures/graduation-requirements/). Students pursuing the BS degree with a major in Sports Medicine and Exercise Physiology must complete:

- A minimum of 21 courses (64 credit hours) to satisfy major requirements.
- A minimum of 120 credit hours to satisfy degree requirements.
- A minimum of 11 courses (33 credit hours) taken at the 300-level or above.
- A maximum of 4 course (12 credit hours) from study abroad or transfer credit. For additional departmental guidelines regarding transfer credit, see the [Policies \(p. 3\) tab](#).

The courses listed below satisfy the requirements for this major. In certain instances, courses not on this official list may be substituted upon approval of the major's academic advisor or, where applicable, the

department's Director of Undergraduate Studies. (Course substitutions must be formally applied and entered into Degree Works by the major's [Official Certifier \(https://registrar.rice.edu/facstaff/degreeworks/officialcertifier/\)](https://registrar.rice.edu/facstaff/degreeworks/officialcertifier/).) Students and their academic advisors should identify and clearly document the courses to be taken.

### Summary

Code	Title	Credit Hours
Total Credit Hours Required for the Major in Sports Medicine and Exercise Physiology		64
Total Credit Hours Required for the BS Degree with a Major in Sports Medicine and Exercise Physiology		120

### Degree Requirements

Code	Title	Credit Hours
<b>Core Requirements</b> <sup>1,2</sup>		
HEAL 103	NUTRITION	3
KINE 120	SCIENTIFIC FOUNDATIONS OF KINESIOLOGY	3
KINE 300	HUMAN ANATOMY WITH LAB	4
KINE 301	HUMAN PHYSIOLOGY	3
KINE 302	BIOMECHANICS	3
KINE 310	PSYCHOLOGICAL ASPECTS OF SPORT AND EXERCISE	3
KINE 311	MOTOR LEARNING	3
KINE 319	STATISTICS FOR THE HEALTH PROFESSIONAL	3
KINE 321	EXERCISE PHYSIOLOGY	3
<b>Elective Requirements</b>		<b>33</b>
<i>Select 3 courses (9 credit hours) from Advanced Kinesiology (KINE) Electives (see course list below)</i>		
<i>Select a minimum of 24 credit hours from Natural Science Electives (see course list below)</i>		
<b>Capstone Requirement</b>		
KINE 440	RESEARCH METHODS	3
<b>Total Credit Hours for the Major in Sports Medicine and Exercise Physiology</b>		<b>64</b>
Additional Credit Hours to Complete Degree Requirements *		25
<a href="https://ga.rice.edu/undergraduate-students/academic-policies-procedures/graduation-requirements/">University Graduation Requirements (https://ga.rice.edu/undergraduate-students/academic-policies-procedures/graduation-requirements/)</a> *		31
<b>Total Credit Hours</b>		<b>120</b>

### Footnotes and Additional Information

- \* **Note:** [University Graduation Requirements](#) include 31 credit hours, comprised of Distribution Requirements (Groups I, II, and III), FWIS, and LPAP coursework. In some instances, courses satisfying FWIS or distribution requirements may additionally meet other requirements, such as the Analyzing Diversity (AD) requirement, or some of the student's declared major, minor, or certificate requirements. [Additional Credit Hours to Complete Degree Requirements](#) include general electives, coursework completed as upper-level, residency (hours taken at Rice), and/or any other additional academic program requirements.

<sup>1</sup> Core Requirements include detailed exposure to human anatomy and human physiology. In addition, students receive coursework in research methods, motor learning, statistics, exercise physiology, and sports psychology.

<sup>2</sup> For the Sports Medicine and Exercise Physiology major, no transfer credit will be accepted for Core Requirements.

## Course List to Satisfy Requirements

### Elective Requirements

To fulfill the elective requirements for the BS degree with a major in Sports Medicine and Exercise Physiology, students must complete a total of 11 elective courses (minimum of 33 credit hours) from the course lists below: a minimum of 3 courses (minimum of 9 credit hours) from advanced Kinesiology (KINE) and a minimum of 8 courses (minimum of 24 credit hours) outside of departmental (KINE) course offerings, from approved electives in the natural sciences.

### Advanced Kinesiology (KINE) Electives

Students must select a minimum of 3 courses (minimum of 9 credit hours) from the course list below. This list of electives is drawn from advanced course offerings within the Department of Kinesiology. Kinesiology elective courses include courses in movement disorders, case studies in human performance, motor control, advanced exercise physiology and preventive medicine, sports nutrition, and psychology of sports injury.

Code	Title	Credit Hours
<b>Advanced Departmental (KINE) Electives</b>		
<i>Select 3 courses from the following:</i>		9
KINE 326	PHYSICAL ACTIVITY EPIDEMIOLOGY	
KINE 403	SPORT NUTRITION	
KINE 410	CASE STUDIES IN HUMAN PERFORMANCE	
KINE 412	MOTOR CONTROL	
KINE 415	PSYCHOLOGICAL ASPECTS OF SPORTS INJURY & REHABILITATION	
KINE 419	MOVEMENT DISORDERS	
KINE 421	ADVANCED TOPICS IN EXERCISE PHYSIOLOGY AND PREVENTIVE MEDICINE	
KINE 430	SPORTS INJURY: EVALUATION, MANAGEMENT, AND TREATMENT	
KINE 441	MUSCLE PHYSIOLOGY AND PLASTICITY	
KINE 455	EXERCISE IMMUNOLOGY	
KINE 460	EXERCISE TESTING AND PRESCRIPTION	
KINE 498	SPECIAL TOPICS IN SPORTS MEDICINE	
<b>Total Credit Hours</b>		<b>9</b>

### Natural Science Electives (Coursework Outside of Departmental (KINE) Course Offerings)

Students must select a minimum of 24 credit hours from the course list below. Electives from departments other than Kinesiology (KINE) include courses in chemistry, physics, biology, and biochemistry, which may also be utilized as medical or graduate school prerequisites.

Code	Title	Credit Hours
<b>Natural Science Electives (Outside KINE)</b>		
<i>Select a minimum of 24 credit hours from the following:</i>		24
BIOS 201 or BIOS 101	INTRODUCTORY BIOLOGY I AP/OTH CREDIT INTRODUCTORY BIOLOGY I	
BIOS 202 or BIOS 102	INTRODUCTORY BIOLOGY II AP/OTH CREDIT INTRODUCTORY BIOLOGY II	
BIOS 211	INTERMEDIATE EXPERIMENTAL CELLULAR AND MOLECULAR BIOSCIENCES	
BIOS 301	BIOCHEMISTRY I	
BIOS 302	BIOCHEMISTRY II	
BIOS 311	EXPERIMENTAL BIOCHEMISTRY	
BIOS 372	IMMUNOLOGY	
CHEM 121 or CHEM 111	GENERAL CHEMISTRY I AP/OTH CREDIT IN GENERAL CHEMISTRY I	
CHEM 123 or CHEM 113	GENERAL CHEMISTRY LABORATORY I AP/OTH CREDIT IN GENERAL CHEMISTRY LAB I	
CHEM 122 or CHEM 112	GENERAL CHEMISTRY II AP/OTH CREDIT IN GENERAL CHEMISTRY II	
CHEM 124 or CHEM 114	GENERAL CHEMISTRY LABORATORY II AP/OTH CREDIT IN GENERAL CHEMISTRY LAB II	
CHEM 211	ORGANIC CHEMISTRY I	
CHEM 219	ORGANIC CHEMISTRY I HONORS	
CHEM 313	ORGANIC CHEMISTRY II	
CHEM 320	ORGANIC CHEMISTRY II HONORS	
PHYS 101	MECHANICS (WITH LAB) <sup>1</sup>	
PHYS 102	ELECTRICITY & MAGNETISM (WITH LAB) <sup>1</sup>	
PHYS 125	GENERAL PHYSICS (WITH LAB) <sup>1</sup>	
PHYS 126	GENERAL PHYSICS II (WITH LAB) <sup>1</sup>	
<b>Total Credit Hours</b>		<b>24</b>

### Footnotes and Additional Information

<sup>1</sup> The Kinesiology department has determined that credits awarded for PHYS 141 *CONCEPTS IN PHYSICS I* or PHYS 142 *CONCEPTS IN PHYSICS II* are not eligible for meeting the requirements of the Sports Medicine and Exercise Physiology major.

### Recommended Electives

#### Experiential Learning, Research, and Other Electives

In addition to the required electives in advanced kinesiology and the natural sciences, it is recommended, although not required, that students complete the following lists of courses. These courses offer opportunities outside of traditional academic experiences, including experiential learning, internships, research, and labs.

Code	Title	Credit Hours
<b>Experiential Learning, Research, and Other Electives</b>		
EMSP 281	EMT-B: INTRODUCTION TO EMERGENCY CARE	3
EMSP 282	ADVANCED EMT	3
HEAL 132	MEDICAL TERMINOLOGY	3
HEAL 407	EPIDEMIOLOGY	3

KINE 275	INTERNSHIP IN SPORTS MEDICINE AND EXERCISE PHYSIOLOGY	1-3
KINE 320	HUMAN PHYSIOLOGY LAB	1
KINE 351	ADVANCED HUMAN ANATOMY LAB	1
KINE 375	SUPERVISED RESEARCH IN SPORTS MEDICINE AND EXERCISE PHYSIOLOGY	1-3
KINE 495	INDEPENDENT RESEARCH IN SPORTS MEDICINE & EXERCISE PHYSIOLOGY	1-3
KINE 499	TEACHING PRACTICUM IN SPORTS MEDICINE & EXERCISE PHYSIOLOGY	1-3

## Policies for the BS Degree with a Major in Sports Medicine and Exercise Physiology

### Transfer Credit

For Rice University's policy regarding transfer credit, see [Transfer Credit \(https://ga.rice.edu/undergraduate-students/academic-policies-procedures/transfer-credit/\)](https://ga.rice.edu/undergraduate-students/academic-policies-procedures/transfer-credit/). Some departments and programs have additional restrictions on transfer credit. Requests for transfer credit must be approved for Rice equivalency by the designated transfer credit advisor for the appropriate academic department offering the Rice equivalent course (corresponding to the subject code of the course content). The Office of Academic Advising maintains the university's official list of [transfer credit advisors \(https://oaa.rice.edu/advising-network/transfer-credit-advisors/\)](https://oaa.rice.edu/advising-network/transfer-credit-advisors/) on their website: <https://oaa.rice.edu>. Students are encouraged to meet with the applicable transfer credit advisor as well as their academic program director when considering transfer credit possibilities.

### Departmental Transfer Credit Guidelines

Students pursuing the major in Sports Medicine and Exercise Physiology should be aware of the following departmental transfer credit guideline:

- Required core coursework must be taken at Rice. Requests for transfer credit will only be considered for elective coursework.

### Additional Information

For additional information, please see the Department of Kinesiology website: <https://kinesiology.rice.edu/>.

## Opportunities for the BS Degree with a Major in Sports Medicine and Exercise Physiology

### Academic Honors

The university recognizes academic excellence achieved over an undergraduate's academic history at Rice. For information on university honors, please see [Latin Honors \(https://ga.rice.edu/undergraduate-students/honors-distinctions/university/\)](https://ga.rice.edu/undergraduate-students/honors-distinctions/university/) (*summa cum laude*, *magna cum laude*, and *cum laude*) and [Distinction in Research and Creative Work \(https://ga.rice.edu/undergraduate-students/honors-distinctions/university/\)](https://ga.rice.edu/undergraduate-students/honors-distinctions/university/). Some departments have department-specific Honors awards or designations.

## Unique Programs

### Rice-UTHealth Houston Public Health Scholars

Rice undergraduate students interested in pursuing a Master of Public Health (MPH) degree at the University of Texas Health Science Center at Houston (UTHealth Houston School of Public Health (UTHHSPH)) may apply to the Rice-UTHealth Houston Public Health Scholars Program. This unique coordinated program enables accepted Rice students to earn credit towards their Rice undergraduate degree (BA or BS with any major), and to accelerate in the completion of their UTHHSPH Master of Public Health degree to within one year after completing their Rice undergraduate degree. For more information on the Rice-UTHealth Houston Public Health Scholars Program, please see the [Rice-UT Public Health Scholars Program](https://studentlife.rice.edu/student-resources/academic/rice-uthealth-public-health-scholars/) tab on the [Dean of Undergraduates website \(https://studentlife.rice.edu/student-resources/academic/rice-uthealth-public-health-scholars/\)](https://studentlife.rice.edu/student-resources/academic/rice-uthealth-public-health-scholars/).

### Rice-UTMB Physical Therapy Scholars

Beginning in Fall 2023, a program agreement is in effect between the Sports Medicine and Exercise Physiology (SMEP) program at Rice University and the Department of Physical Therapy at the University of Texas Medical Branch at Galveston (UTMB). This unique Rice-UTMB Physical Therapy Scholars Program (Rice-UTMB PTS) offers an opportunity for qualified SMEP students who have identified physical therapy as a career choice to receive preference during the admission process into the UTMB Doctor of Physical Therapy Program. For more information on the Rice-UTMB Physical Therapy Scholars Program, please see the [Department of Kinesiology website \(https://kinesiology.rice.edu/\)](https://kinesiology.rice.edu/).

### Additional Information

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