MOVEMENT SCIENCE MINOR

Program Overview

The Movement Science minor is designed to foster a deeper knowledge and understanding of the fundamental aspects of human performance. Upon completion of the program, the student will be able to:

- Demonstrate knowledge of theoretical and practical scientific concepts of movement and movement science (i.e., anatomy, physiology, nutrition, biomechanics/kinesiology, and biopsychosocial and behavioral health.)
- Identify and explain disease which may result from and affect biological and behavioral health.
- Articulate a philosophy that demonstrates the role of movement in the development and maintenance of overall health and the prevention of disease.

Degree Offered

- Minor in Movement Science

Contact

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Program Website: Movement Science (https://www.rider.edu/academics/colleges-schools/college-arts-sciences/science-technology-math/undergraduate/movement-science-minor/)

Associated Department: Health Sciences & Nursing (https://www.rider.edu/academics/colleges-schools/college-arts-sciences/science-technology-math/faculty-departments/health-nursing/)

Related Programs

- Behavioral Neuroscience (http://catalog.rider.edu/undergraduate/colleges-schools/arts-sciences/majors-minors-certificates/behavioral-neuroscience/)
- Biochemistry (http://catalog.rider.edu/undergraduate/colleges-schools/arts-sciences/majors-minors-certificates/biochemistry/)
- Biology (http://catalog.rider.edu/undergraduate/colleges-schools/arts-sciences/majors-minors-certificates/biology/)
- Chemistry (http://catalog.rider.edu/undergraduate/colleges-schools/arts-sciences/majors-minors-certificates/chemistry/)
- Dance (http://catalog.rider.edu/undergraduate/colleges-schools/arts-sciences/majors-minors-certificates/dance-ba/)
- Environmental Science (http://catalog.rider.edu/undergraduate/colleges-schools/arts-sciences/majors-minors-certificates/environmental-sciences/)
- Exercise Science (http://catalog.rider.edu/undergraduate/colleges-schools/arts-sciences/majors-minors-certificates/exercise-sciences/)
- Health Sciences (http://catalog.rider.edu/undergraduate/colleges-schools/arts-sciences/majors-minors-certificates/healthsciencesbs/)
- Mathematics (http://catalog.rider.edu/undergraduate/colleges-schools/arts-sciences/majors-minors-certificates/mathematics/)

Movement Science Minor Requirements

(21-22 credits)

Code	Title	Credits
Select one of the following:		
BIO 100	Life Science	3-4
or BIO 115/BIO 115L	Principles of Biology I	
or BIO 116/BIO 116L	Principles of Biology II	
or BNS 107	Life Science: Brain and Behavior	
BIO 221 & 221L	Human Anatomy & Physiology I and Human Anatomy & Physiology I Lab	4
BIO 222 & 222L	Human Anatomy & Physiology II and Human Anatomy & Phys II Lab	4
DAN 460	Movement Theory and Somatic Practice [1]	3
HSC 110	Introduction to Human Nutrition	3
HSC 302 & HSC 303	Kinesiology and Kinesiology Lab [2]	4
Total Credits		**21-22**

[1] DAN 460 is offered every other year. Work with your advisor to plan accordingly.

[2] Health Science majors who declare a Movement Science Minor may not count HSC 110 or HSC 302 / HSC 303 toward their major requirements.

Courses

BIO 100 Life Science 3 Credits
An introductory course for non-science majors in which students develop an understanding of the nature of science and are introduced to foundational topics in the biological life sciences and how they relate to human affairs. The course may emphasize human evolution, genetics, aging, disease, reproduction, bioethics or other topics in biology. This course counts towards the fulfillment of the Disciplinary Perspectives element of the CAS general education curriculum.

BIO 115 Principles of Biology I 4 Credits
An introductory biology course focusing on major themes of biology: what is life?; Cells as fundamental structure and functional unit of life; information transmission, storage and retrieval; Diversity and unity of life explained by evolution. Three hours of lecture and one three- hour lab per week.
Corequisite(s): BIO 115L.

BIO 115L Principles of Biology I Lab 0 Credits
This lab is a co-requisite and must be taken with the corresponding course.
Corequisite(s): BIO 115.

BIO 116 Principles of Biology II 4 Credits
An introductory biology course focusing on major themes of biology: Energy and matter to carry out life's essential functions; Interdependent relationships characterize biological systems (homeostasis, growth & development); Behavior of living things; Ecology and the environment. Three hours of lecture and one three-hour lab per week.
Corequisite(s): BIO 116L.

BIO 116L Principles of Biology II Lab 0 Credits
This lab is a co-requisite and must be taken with the corresponding course.
Corequisite(s): BIO 116.

BIO 221 Human Anatomy & Physiology I 4 Credits
A comprehensive survey of the structure and function of musculo-skeletal systems, neuroendocrine systems and related tissues and cellular interactions. Physiological applications include homeostasis, muscle dynamics, and cell activities. Laboratory exercises complement lecture material through the use of animal dissections, wet labs, computer-assisted investigations, microscopy, and models. Exams, case histories, personal investigations, and lab practicums assess learning. Course emphasis supports allied health and pre-professional training. Three hours of lecture and one three-hour lab per week. Designed for allied health students; does not satisfy requirements for the biology major. Prerequisite(s): HSC major ONLY or Permission of instructor.
Corequisite(s): BIO 221L.

BIO 221L Human Anatomy & Physiology I Lab 0 Credits
This lab is a co-requisite and must be taken with the corresponding course.
Corequisite(s): BIO 221.

BIO 222 Human Anatomy & Physiology II 4 Credits
A comprehensive survey of the organ systems of the body including special senses, cardiovascular, respiratory, digestive, excretory, reproduction and development. Physiological components include electrolytes, metabolism, nutrition, and the mechanisms of homeostasis and cell reception. Lab studies support lecture material through dissections, wet labs, computer-assisted learning, microscopy, and models. Assessment includes lab practicums, exams, and reports. Course emphasis supports allied health and pre-professional training. Designed for allied health students; does not satisfy requirements for the biology major. Prerequisite(s): BIO 221.
Corequisite(s): BIO 222L.

BIO 222L Human Anatomy & Phys II Lab 0 Credits
This lab is a co-requisite and must be taken with the corresponding course. Prerequisite(s): BIO 221L.
Corequisite(s): BIO 222.

BNS 107 Life Science: Brain and Behavior 3 Credits
An introduction to the biology of the human brain and the rest of the human nervous system. Topics in neuroscience are covered in molecular, cellular, and systematic terms. Additional material is presented on the origins and effects of neurological and psychiatric diseases. This course counts towards the fulfillment of the Disciplinary Perspectives element of the CLAS general education curriculum.

HSC 110 Introduction to Human Nutrition 3 Credits
This course is designed to offer the student an understanding of fundamental human nutrition concepts including, but not limited to, digestion, absorption, metabolism, functions, and sources of macronutrients and micronutrients. The theme of the course will align with human health and disease states and the important conceptions about the food industry and its relation to healthy dietetic choices.

HSC 302 Kinesiology 3 Credits
The purpose of this course is to explore human movement during performance of activities. This course will explore the relationship between anatomical structures and function in the production of movement. The application and relationships between the fundamental principles of mechanics and musculoskeletal system function will be addressed within the framework of clinical and research perspectives. Both qualitative and quantitative approaches will be applied towards a better understanding of human movement, the analysis of physical activity. Prerequisite(s): BIO 221 & MTH 105 (or equivalent) or POI.
Corequisite: HSC 303.

HSC 303 Kinesiology Lab 1 Credits
This lab is a co-requisite and must be taken with HSC 302.
Corequisites: HSC 302.