DANCE SCIENCE

Program Overview

A degree in Dance Science capitalizes on Rider's science offerings to produce a first-of-its-kind curriculum incorporating a wide variety of courses focused on human performance. Students will study the art and movement of dance - fundamentals of classical dance forms; history and theory of dance, composition and performance - along with biology, nutrition, anatomy, exercise physiology, kinesiology and injury prevention. They will understand socio-political-historical aspects of dance, and be able to discuss meaning in movement. Students will learn to integrate mind-body, and develop strength, coordination, flexibility, musicality, and expression, while studying the science of how to move safely and achieve personal, optimal performance.

Curriculum Overview

Students will learn how to conceptualize, create, and analyze dance as they study the art of movement. They will receive a comprehensive education in both the art of dance and the instrument of dance - the body. Students will have opportunities to both perform on stage and work, shadow, and research with our physical therapist who specializes in movement logic and injury prevention. Each student will select a capstone, multi-disciplinary, or research project. Understanding biomechanics will increase understanding and equip students with the skills, theoretical framework, and experience necessary to enter the workforce as dance teachers, choreographers, directors, producers, and candidates for graduate school in education, dance, or sciences.

Degree Offered

- B.A. in Dance Science

Contact

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Related Programs:

- Dance (http://catalog.rider.edu/undergraduate/colleges-schools/arts-sciences/majors-minors-certificates/dance-ba/)
- Movement Science (http://catalog.rider.edu/undergraduate/colleges-schools/arts-sciences/majors-minors-certificates/movement-science-minor/)

Dance Science Program Requirements

General Remarks

For all majors offered in the Theatre & Dance Department, students must earn a minimum grade of "C" in those courses required in the major area in order to make satisfactory progress. If a grade of "C-" or lower is earned, the student must repeat the course.

(120 credits)

Code	Title	Credits
Required Science Courses		
BIO 115 & 115L	Principles of Biology I and Principles of Biology I Lab	4
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
EXS 320 & EXS 321	Exercise Physiology and Exercise Physiology Laboratory	4
EXS 360	Foundations of Strength and Conditioning (includes Lab)	4
HSC 100	Intro to Human Nutrition	3
HSC 201	Nutrition for Exercise and Physical Activity	3
HSC 302 & 302L	Kinesiology and Kinesiology Lab	4
PSY 283	Sport Psychology	3
PSY 345	Health Psychology	3
Internship/Practicum and/or Research		**3**
DAN 490	Independent Research and Study	
or DAN 491	Internship in Dance	
or DAN 498	Senior Capstone	
Required Dance Course		
DAN 121	Introduction to Dance Science	3
Required Ensemble/Performance Courses		
DAN 111	Dance Lab (7 terms) [1]	0
DAN 210	Rider Dances: Repertory & Productions	1
DAN 210T	Rider Dances Rep&Produc:Tech	1
Required Applied Studio Courses		
DAN 112	Ballet I: The Point of Departure	1
DAN 113	Ballet II: Next Steps	1
DAN 201	Vaganova I	1
DAN 202	Vaganova II	1
DAN 100	Fundamentals of Dance [2]	4
or DAN 300	Lecture & Studio in Dance	
DAN 151	Pilates and Modern	1
DAN 152	World Dance & Improvisation	1
Studio Electives		
DAN 100	Fundamentals of Dance (including 1 credit of Combo: Mindbody)	4
or DAN 300	Lecture & Studio in Dance	
Dance History and Theory		
DAN 105	Survey of Dance History	3
DAN 180	History of Movement Theory	3
DAN 190	Dalcroze Eurythmics	3
DAN 220	History of Choreography	3
DAN 350	History of Ballet, Modern & Jazz Dance	3
DAN 450	Pedagogy and Methodology in Dance	3
Suggested Core Courses		
MTH 105	Algebra and Trigonometry	4
PHL 304	Medical Ethics	3
PSY 100	Introduction to Psychology	3
SOC 101	Sociological Imagination	3

Additional Core Courses	**21**
Select courses in Languages, History, Writing, or Literature	
Free Electives	**10**
Total Credits	**120**

[1]

Double majors should consult their advisors to determine the most pedagogically appropriate lab to attend. Students should not register in more than one lab per semester. Students are required to complete at least three lab sections in each of their majors before graduation. Students must meet the minimum total credits of lab required by each major though some of those credits may come from a different discipline.

[2]

3 credits of Ballet, 1 credit of Hip Hop or Jazz

Note:

- All majors and minors must have a Dance Screening ($75.00) with a certified Dance Physical Therapist.

Academic Plan

The following educational plan is provided as a sample only. Rider students who do not declare a major during their freshman year; who are in a Continuing Education Program; who change their major; or those who transfer to Rider may follow a different plan to ensure a timely graduation. Each student, with guidance from his or her academic advisor, will develop a personalized educational plan.

Course	Title	Credits
Year 1		
Fall Semester		
DAN 105	Survey of Dance History	3
DAN 111	Dance Lab	0
DAN 112	Ballet I: The Point of Departure	1
DAN 121 or EXS 121	Introduction to Dance Science or Exercise Injury Control and Management	3
DAN 151	Pilates and Modern	1
PSY 100	Introduction to Psychology	3
BIO 115 & 115L	Principles of Biology I and Principles of Biology I Lab	4
CMP 120	Seminar in Writing and Rhetoric	3
	Semester Credit Hours	**18**
Spring Semester		
DAN 111	Dance Lab	0
DAN 113	Ballet II: Next Steps	1
DAN 152	World Dance & Improvisation	1
DAN 350	History of Ballet, Modern & Jazz Dance	3
DAN 210T	Rider Dances Rep&Produc:Tech	1
MTH 105	Algebra and Trigonometry (or higher level math course)	4
CMP 125	Seminar in Writing and Research	3
	Semester Credit Hours	**13**
Year 2		
Fall Semester		
DAN 100	Fundamentals of Dance (Princeton Ballet Studio)	1
DAN 111	Dance Lab	0
DAN 180	History of Movement Theory	3
DAN 201	Vaganova I	1
BIO 221 & 221L	Human Anatomy & Physiology I and Human Anatomy & Physiology I Lab	4
PSY 100	Introduction to Psychology	3
SOC 101	Sociological Imagination	3
	Semester Credit Hours	**15**
Spring Semester		
DAN 100	Fundamentals of Dance (studio)	1
DAN 111	Dance Lab	0
DAN 190	Dalcroze Eurythmics	3
DAN 202	Vaganova II	1
HSC 100		3
BIO 222 & 222L	Human Anatomy & Physiology II and Human Anatomy & Phys II Lab	4
PSY 283	Sport Psychology	3
	Semester Credit Hours	**15**
Year 3		
Fall Semester		
DAN 111	Dance Lab	0
DAN 220	History of Choreography	3
DAN 300	Lecture & Studio in Dance	2
HSC 201		3
EXS 320 & EXS 321	Exercise Physiology and Exercise Physiology Laboratory	4
Free Elective		3
	Semester Credit Hours	**15**
Spring Semester		
DAN 100	Fundamentals of Dance	1
DAN 111	Dance Lab	0
DAN 210	Rider Dances: Repertory & Productions	1
DAN 450	Pedagogy and Methodology in Dance	3
HSC 302 & 302L	Kinesiology and	4
PHL 304	Medical Ethics	3
General Education		3
	Semester Credit Hours	**15**
Year 4		
Fall Semester		
DAN 100	Fundamentals of Dance	1
DAN 111	Dance Lab	0
PSY 345	Health Psychology	3
DAN 491	Internship in Dance	1-4
General Education		6
Free Elective		6
	Semester Credit Hours	**17-20**
Spring Semester		
DAN 100	Fundamentals of Dance	1
DAN 498 or DAN 490 or DAN 491	Senior Capstone or Independent Research and Study or Internship in Dance	1-4

EXS 360 & 360L	Foundations of Strength and Conditioning and Foundations of Strength and Conditioning Lab	4
Free Electives		3
	Semester Credit Hours	**9-12**
	Total Credit Hours for Graduation	**117-123**

Courses and Descriptions

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 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.

DAN 100 Fundamentals of Dance 1 Credits
Designed to offer students concurrent participation and theoretical inquiry in specific dance forms. Students must register for two classes per week at the Princeton Ballet School. One additional hour per week is comprised of video observation, lecture, or readings, and is taught at Rider's Lawrenceville campus. Prerequisite(s): permission of dance advisor; Dance Studio Courses Ballet I.

DAN 105 Survey of Dance History 3 Credits
An introductory course to familiarize students with the breadth and depth of dance in human society. It will chronologically examine dance through four lenses: Dance and Community, Dance and Religion, Dance and Politics, and Dance as Art. Students will be exposed to various dance forms from around the world with varying purposes, functions, and motivations from the beginning of recorded history to present.

DAN 111 Dance Lab 0 Credits

DAN 112 Ballet I: The Point of Departure 1 Credits
This is an entry- level, mandatory ballet class that covers all of the safest fundamental practices, including proper use of alignment, feet, rotation, and use of the core in the classical vocabulary.

DAN 113 Ballet II: Next Steps 1 Credits
This is a continuation of the safest fundamental practices covered in Ballet I, including proper use of alignment, feet, rotation, and use of the core in the classical vocabulary. In addition this course extends the coverage of discourse, terminology and vocabulary of the classical technique. DAN 113 may be repeated two times for a total of three credits.
Prerequisite(s): Ballet I or equivalent.

DAN 151 Pilates and Modern 1 Credits

DAN 152 World Dance & Improvisation 1 Credits

DAN 180 History of Movement Theory 3 Credits
Investigation of the mind-body connection, somatic experience, body therapies, movement, and theories. The essential question is: How is it that we move with awareness, fluidity, efficiency, and precision?.

DAN 190 Dalcroze Eurythmics 3 Credits
This movement course familiarizes students with the basic elements of music theory (staff, clefs, time signatures, notations, chords, etc.) and the Dalcrozian principles regarding music, movement and improvisation.

DAN 201 Vaganova I 1 Credits
This studio course focuses on fundamental knowledge about the vocabulary, discourse, performance and style of the classical ballet, especially as it pertains to the Vaganova Technique.

DAN 202 Vaganova II 1 Credits
This studio course continues the development of knowledge concerning the vocabulary, discourse, performance and style of the classical ballet, expecially as it pertains to the Vaganova Technique. Repeatable twice for total of three times taken. May only be repeated if there are open spots after those taking it for the first time have registered.
Prerequisite(s): DAN 201.

DAN 121 Introduction to Dance Science 3 Credits
This orientation to dance science will consider important aspects of the study of human performance including anatomy, biology, kinesiology, and psychology of movement and performance. Covered are the foundations and research findings in Movement Theory, Motor Development, and Well -Being. Topics include the Care and Prevention of Injuries, Movement Analysis, Dance Movement Therapy, Mind-body Connection, Dance Fitness and Optimal Performance.

DAN 210 Rider Dances: Repertory & Productions 1 Credits
This course provides an in-depth experience with the art of dance production from creation to performance. Students will be chosen to learn and perform repertory; fulfill technical roles such as sound, lighting and costume design; and assume production and managerial responsibilities such as promotion, publicity, front of house management and stage management.
Prerequisite(s): permission of instructor.

DAN 210T Rider Dances Rep&Produc:Tech 1 Credits

DAN 220 History of Choreography 3 Credits
This course prepares the dance student for the creating of dance through critical analysis, reading, writing and practical assignments. Students will examine creative process as applied to dance artists and various forms of dance.

DAN 300 Lecture & Studio in Dance 2 Credits
Dance 300 series is also designed to offer students concurrent participation and theoretical inquiry in specific dance forms. Students must register for four classes per week at the Princeton Ballet School. One additional hour is comprised of video observation, lecture, or readings and is held at Rider's Lawrenceville campus. Prerequisite(s): permission of instructor; Dance Studio Courses Ballet I.

DAN 350 History of Ballet, Modern & Jazz Dance 3 Credits
Studies the major periods in the development of Western Theatrical Dance from the Renaissance to the present focusing on ballet, modern, jazz, tap and musical theater dance. The course will examine the ideas and individuals that caused the development of choreographers, producers, designers and productions.

DAN 450 Pedagogy and Methodology in Dance 3 Credits
This course provides the student with first-hand experience inside a classroom setting to broaden the students' understanding of dance techniques, teaching styles and strategies, analysis of skills and critical feedback, class preparation and design, and assessment. Course requirements include off-campus field work. Cross-listing existing entry-level teaching course with analogous graduate-level course (CURR 711).

DAN 490 Independent Research and Study 1-4 Credits
Students may pursue a special topic for which they have prepared through prior course work. Only one project may be scheduled in a semester. The project may involve 1-4 Credit hours. Approval of the faculty sponsor, department chair, and dean required prior to enrollment.
Prerequisite(s): junior or senior standing, good academic standing.

DAN 491 Internship in Dance 1-4 Credits
Provides junior or senior dance majors with the practical experience of working within an educational or professional dance environment. Students must be sponsored by a dance professor. For each academic credit, interns must work 48 hours for the semester, or approximately 3.7 hours each week.
Prerequisite(s): permission of instructor.

EXS 320 Exercise Physiology 3 Credits
An entry level exploration of the physiological processes, metabolic requirements, and consequences of exercise in humans. Emphasis is placed on bioenergetics, as well as circulatory, respiratory, and neuromuscular responses to the physical stress of exercise performed for health and disease prevention.
Prerequisite(s): BIO 221, BIO 222.

EXS 321 Exercise Physiology Laboratory 1 Credits
EXS 321 is the laboratory course that accompanies EXS 320. Topics will include entry-level practical skills and competencies related to exercise capacity evaluation, interpretation of exercise data, and application of exercise interventions in a clinical setting. Prerequisite(s): BIO 221, 222 Co-requisite(s): EXS 320.

EXS 360 Foundations of Strength and Conditioning 4 Credits
This course examines the advanced methods and techniques associated with the design of strength and conditioning programs to enhance human performance in sport and fitness. This course is designed to develop, enhance, and apply knowledge and skills to prepare the student for the profession of strength and conditioning. Prerequisite(s): EXS 320, EXS 321, HSC 302.
Corequisite(s): EXS 360L.

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.

MTH 105 Algebra and Trigonometry 4 Credits
The course is an in depth and rigorous study of functions and graphs, equations and inequalities, polynomial and rational functions, exponential, and logarithmic functions, basic trigonometric functions and their inverses, trigonometric identities.
Prerequisite(s): A mathematics SAT score of 570, departmental placement or MTH 100 with a grade of C or higher.

PHL 303 Philosophy of Law 3 Credits
An examination and analysis of selected topics including classical and contemporary theories in the philosophy of law and moral philosophy. Such topics as the nature of the law and legal reasoning, the legal enforcement of morality, protection of personal liberty, and the moral justification of punishment are considered. Such philosophers as Aquinas, Austin, Holmes, Bentham, Hart, and Dworkin are read and discussed.

PSY 100 Introduction to Psychology 3 Credits
This course covers major facts, principles and concepts about human and animal behavior and experience, research findings, major problems, basic vocabulary, methodologies, and contributions in the field. Topics include psychology as a science; human development; individual differences; intelligence and its measurement; special aptitudes and interests; personality and social behavior; motivation and emotion; frustration and personality deviations; and learning, thinking, remembering and forgetting.

PSY 283 Sport Psychology 3 Credits
This survey course will focus on the social and psychological factors related to performance and participation in sport and exercise, health, and injury rehabilitation settings. Two general questions will be explored: (a) how do social and psychological variables influence performance and participation in physical activity pursuits? And (b) how does physical activity participation affect the psychological well-being of the individual? To better understand these questions, this course will overview theoretical and methodological approaches to a variety of sport and exercise psychology topics, including: socialization, motivation, group processes, competition, and performance enhancement. This course counts towards the fulfillment of the Disciplinary Perspectives element of the CLAS general education curriculum.
Prerequisite(s): PSY 100 or PSY 102 or PSY 110 or PSY 131.

PSY 345 Health Psychology 3 Credits
This course focuses on the biopsychosocial model of health in which biological, psychological and social factors contribute to health and wellbeing, as well as illness and disease. After a brief introduction to systems of the body, i.e. nervous, endocrine, respiratory, cardiovascular, digestive, immune, this course will examine health-enhancing behaviors such as exercise and nutrition, as well as health-compromising behaviors such as drug abuse and other reckless behaviors, along with models that explain behavior maintenance and change. Additionally, attention is devoted to a discussion of how health psychology can function in shaping health care policy.
Prerequisite(s): (PSY 100 or PSY 102 or PSY 110 or PSY 131) and 45 credits.

SOC 101 Sociological Imagination 3 Credits
Introduction to principles and concepts for the sociological analysis of human societies. Social relations, social structure, and institutions characteristic of societies past and present are examined, and causes and directions of social change are considered. This course counts towards the fulfillment of the Disciplinary Perspectives element of the CLAS general education curriculum.