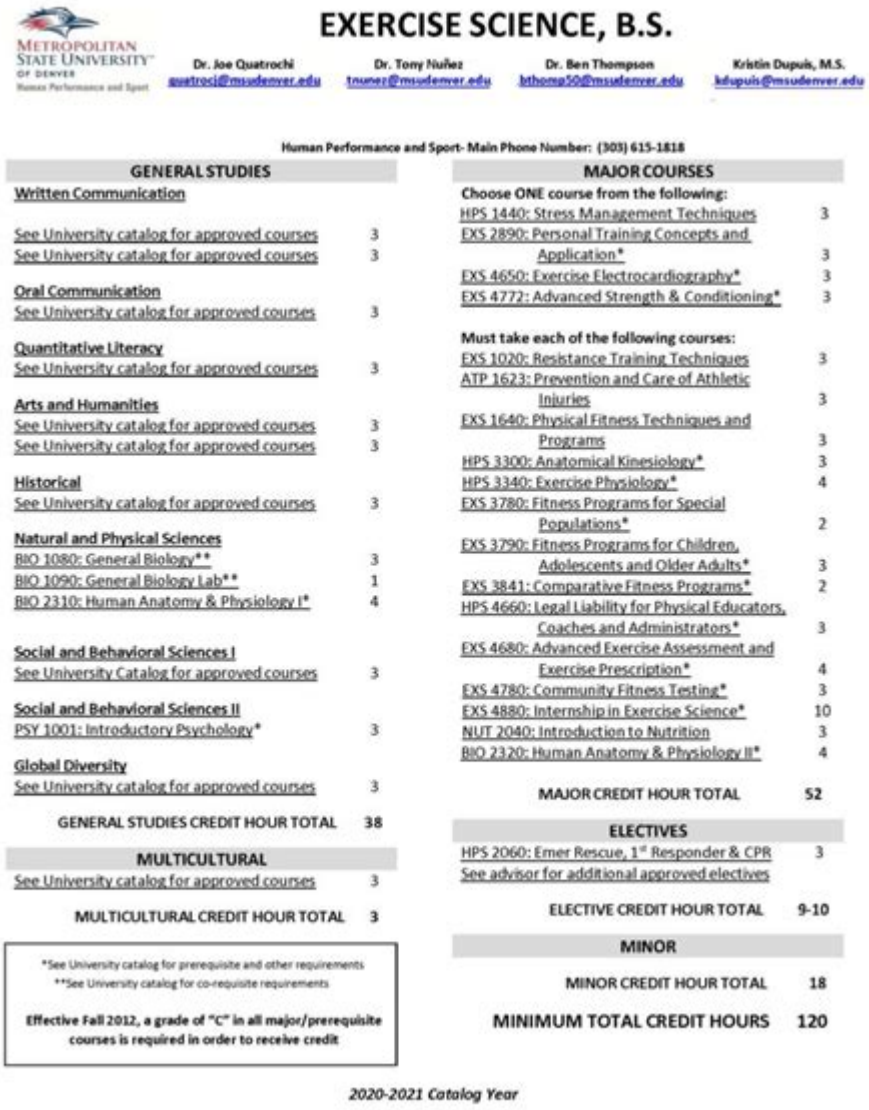
Exercise Science Pre Reqs



EXERCISE SCIENCE, B.S.

METROPOLITAN STATE UNIVERSITY OF DENVER
Human Performance and Sport

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GENERAL STUDIES	
Written Communication	
See University catalog for approved courses	3
See University catalog for approved courses	3
Oral Communication	
See University catalog for approved courses	3
Quantitative Literacy	
See University catalog for approved courses	3
Arts and Humanities	
See University catalog for approved courses	3
See University catalog for approved courses	3
Historical	
See University catalog for approved courses	3
Natural and Physical Sciences	
BIO 1080: General Biology**	3
BIO 1090: General Biology Lab**	1
BIO 2310: Human Anatomy & Physiology I*	4
Social and Behavioral Sciences I	
See University Catalog for approved courses	3
Social and Behavioral Sciences II	
PSY 1001: Introductory Psychology*	3
Global Diversity	
See University catalog for approved courses	3
GENERAL STUDIES CREDIT HOUR TOTAL	38

MULTICULTURAL	
See University catalog for approved courses	3
MULTICULTURAL CREDIT HOUR TOTAL	3

*See University catalog for prerequisite and other requirements
**See University catalog for co-requisite requirements

Effective Fall 2012, a grade of "C" in all major/prerequisite courses is required in order to receive credit

MAJOR COURSES	
Choose ONE course from the following:	
HPS 1440: Stress Management Techniques	3
EXS 2890: Personal Training Concepts and Application*	3
EXS 4650: Exercise Electrocardiography*	3
EXS 4772: Advanced Strength & Conditioning*	3
Must take each of the following courses:	
EXS 1020: Resistance Training Techniques	3
ATP 1623: Prevention and Care of Athletic Injuries	3
EXS 1640: Physical Fitness Techniques and Programs	3
HPS 3300: Anatomical Kinesiology*	3
HPS 3340: Exercise Physiology*	4
EXS 3780: Fitness Programs for Special Populations*	2
EXS 3790: Fitness Programs for Children, Adolescents and Older Adults*	3
EXS 3841: Comparative Fitness Programs*	2
HPS 4660: Legal Liability for Physical Educators, Coaches and Administrators*	3
EXS 4680: Advanced Exercise Assessment and Exercise Prescription*	4
EXS 4780: Community Fitness Testing*	3
EXS 4880: Internship in Exercise Science*	10
NUT 2040: Introduction to Nutrition	3
BIO 2320: Human Anatomy & Physiology II*	4
MAJOR CREDIT HOUR TOTAL	52

ELECTIVES	
HPS 2060: Emer Rescue, 1st Responder & CPR	3
See advisor for additional approved electives	
ELECTIVE CREDIT HOUR TOTAL	9-10

MINOR	
MINOR CREDIT HOUR TOTAL	18
MINIMUM TOTAL CREDIT HOURS	**120**

2020-2021 Catalog Year

Exercise science pre reqs are essential stepping stones for anyone aspiring to pursue a career in this dynamic and growing field. Exercise science encompasses the study of human movement, physical activity, and the physiological responses to exercise. It bridges the gap between health, fitness, and rehabilitation, making it vital for professionals in various disciplines, including personal training, physical therapy, sports coaching, and exercise physiology. As the demand for qualified professionals in this area continues to rise, understanding the prerequisites for exercise science programs becomes increasingly important for prospective students. In this article, we will explore the foundational requirements, relevant coursework, and important skills needed to succeed in exercise science.

Understanding Exercise Science

Before diving into the prerequisites, it’s crucial to understand what exercise science entails. This field is centered around the scientific principles of physical activity and its effects on the human body. Professionals in exercise science apply their knowledge to improve athletic performance, promote health and wellness, and rehabilitate individuals after injuries.

The Importance of Exercise Science

The relevance of exercise science can be seen across various sectors, including:

- Healthcare: Promoting physical activity as a means of disease prevention and rehabilitation.
- Sports: Enhancing athletic performance through tailored training programs.
- Fitness: Creating personalized workout regimens for individuals looking to maintain or improve their fitness levels.
- Research: Investigating the physiological effects of exercise and developing new methodologies for training and rehabilitation.

Given the diverse applications of exercise science, students pursuing this field must have a solid foundation in several core areas.

Prerequisites for Exercise Science Programs

Most exercise science programs, whether at the undergraduate or graduate level, have specific prerequisites that students must meet to ensure they are adequately prepared for the curriculum. These prerequisites typically include coursework in the following areas:

1. Basic Science Courses

A strong foundation in the sciences is critical for understanding the physiological responses to exercise. Commonly required courses include:

- Biology: Understanding human anatomy, physiology, and cellular biology.
- Chemistry: Grasping the biochemical processes that fuel the body during physical activity.
- Physics: Learning the principles of motion, force, and energy, which are essential for analyzing human movement.

2. Mathematics Requirements

Mathematics plays a crucial role in exercise science, especially in areas like biomechanics, nutrition, and statistics. Students may be required to complete courses in:

- Algebra: For problem-solving and data analysis.
- Statistics: Essential for research methods and evaluating data in exercise science studies.
- Calculus (in some programs): Useful for understanding rates of change in physiological processes.

3. Health and Wellness Courses

A comprehensive understanding of health and wellness is vital for exercise science professionals. Required or recommended courses may include:

- Nutrition: Exploring the role of diet and nutrition in exercise performance and health.
- Kinesiology: Studying human movement and the mechanics of physical activity.
- Health Education: Understanding how to promote health and wellness in various populations.

Additional Course Recommendations

Beyond the minimum prerequisites, students may benefit from additional coursework that enhances their knowledge and skills in exercise science. Recommended courses include:

- Exercise Physiology: Delving deeper into how the body responds to exercise at different intensities and durations.
- Biomechanics: Analyzing movement patterns and understanding the physical laws governing motion.
- Strength and Conditioning: Learning about training methods that enhance athletic performance.
- Sports Psychology: Understanding the mental aspects of training and competition, which can be crucial for both athletes and trainers.

Skills and Competencies for Success

In addition to academic prerequisites, students aspiring to enter the field of exercise science should cultivate specific skills and competencies. These include:

1. Communication Skills

- Interpersonal Communication: Effectively interacting with clients, athletes, and team members is essential. This includes active listening and providing clear instructions.
- Writing Skills: Proficiency in writing reports, research papers, and presentations is crucial for conveying scientific information.

2. Critical Thinking and Problem-Solving

- Analytical Skills: The ability to analyze data and apply scientific principles to real-world situations is vital for developing effective training programs.
- Adaptability: Being able to modify strategies based on individual needs and responses to exercise is crucial for success in this field.

3. Technical Skills

- Familiarity with Technology: Proficiency in using fitness assessment tools, workout software, and data analysis programs is increasingly important in exercise science.
- Research Skills: Understanding how to conduct and evaluate research studies is essential for staying current in the field.

Gaining Practical Experience

Engaging in practical experiences is a key component of preparing for a career in exercise science. Students should seek opportunities such as:

- Internships: Gaining hands-on experience in settings like gyms, rehabilitation centers, or sports teams.
- Volunteer Work: Participating in community health initiatives or sports events to gain exposure to different aspects of exercise science.
- Certifications: Obtaining industry-recognized certifications (e.g., CPT, CSCS) can enhance employability and demonstrate a commitment to professional development.

Conclusion

In summary, the exercise science pre reqs are designed to equip students with the necessary knowledge and skills to succeed in this multifaceted field. A solid foundation in the sciences, along with essential communication and

analytical skills, lays the groundwork for a rewarding career in exercise science. As the industry continues to evolve, ongoing education and practical experience will be crucial for professionals aiming to make a meaningful impact on health, fitness, and athletic performance. By understanding and fulfilling these prerequisites, aspiring exercise science students can embark on a fulfilling journey toward a career that promotes healthier lifestyles and enhances athletic potential.

Frequently Asked Questions

What are the common prerequisites for an exercise science degree?

Common prerequisites include courses in biology, chemistry, anatomy, physiology, and statistics.

Do I need a background in fitness to pursue exercise science?

While a background in fitness can be beneficial, it is not typically required. Prerequisite courses focus more on science and health.

Are there specific math requirements for exercise science programs?

Yes, many programs require at least one college-level math course, often statistics or algebra.

Is a personal training certification necessary before applying to exercise science programs?

No, a personal training certification is not required, but it can enhance your application and practical knowledge.

What types of biology courses are recommended for exercise science students?

Recommended biology courses typically include general biology, human biology, and exercise physiology.

Can I complete exercise science prerequisites online?

Yes, many colleges and universities offer online courses that fulfill exercise science prerequisites.

How important is it to have a strong foundation in human anatomy for exercise science?

A strong foundation in human anatomy is crucial, as it forms the basis for understanding body mechanics and exercise physiology.

Are there any recommended electives to take alongside exercise science prerequisites?

Electives in psychology, nutrition, or health education can be beneficial to provide a broader understanding of exercise science.

What GPA should I aim for in my prerequisites for exercise science?

While requirements vary by institution, aiming for a GPA of 2.5 to 3.0 or higher is generally advisable to be competitive.

Exercise Science Pre Reqs

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