EXERCISE SCIENCE

Large corporations, hospitals, colleges, small businesses, resorts and hotels are incorporating more health promotion services than ever before. The exercise science (ES) major at North Dakota State University prepares students to meet this growing demand. The exercise science major is accredited by the Commission on Accreditation of Allied Health Education Programs through the American College of Sports Medicine (ACSM). This curriculum covers the knowledge, skills and abilities expected of an ACSM Health/Fitness Specialist.

Exercise Science Major

The ES major is designed to prepare students for entry-level positions in any of the four health-fitness settings: commercial, community, corporate or clinical. Completion of the ES major may act as a stepping stone to prepare the exceptional student for graduate education in exercise physiology/science, cardiac rehabilitation, physical therapy, sports nutrition, sports medicine, biomechanics or other allied health disciplines.

The ES major includes everything from the study of physical activity and the associated acute and chronic physiological responses and adaptations resulting from it, to health-fitness business management principles found in facilities worldwide. Students are strongly encouraged to select a minor in business or other appropriate area depending on their interests. Several field experience courses during the four-year program, as well as a capstone experience involving a semester-long internship required at the end of the ES major, afford students the opportunity to select an area of specialization in the field at sites available throughout the country.

Career Options

The following list is not all-inclusive, but does identify some of the most common career and job opportunities in the four health-fitness settings. Exercise science graduates from NDSU (approximately 30 to 40 per year) are employed in these different settings across the country, especially in metropolitan areas. Approximately 30 percent of our graduates continue on to graduate school or medical school, and about 20 percent are hired on at their internship site.

Commercial Setting -- The greatest proportion of jobs can be found in for-profit, commercially run health-fitness facilities. The commercial environment is for someone interested in the marketing and sales of health-fitness services and products. This is also a good place for broad exposure to management in the health-fitness industry.

Community Setting -- Many organizations and agencies serve clients in community settings, including voluntary, not-for-profit entities, as well as public parks and recreation agencies, schools and universities, hotels, country clubs and residential health-fitness developments. Many community-based facilities and programs offer exposure to health-fitness programming coupled with a social and recreational focus.

Corporate Setting -- In-house health-fitness facilities and services found in large and small-scale businesses are expanding rapidly. The objectives of these facilities may include reductions in employee absenteeism, turnover rates and health care costs, while improving employee wellness, morale and enthusiasm in the workplace.

Clinical Setting -- Hospital-based health-fitness facilities can be found in one out osf every four hospitals, with a forecasted growth to almost one out of every two hospitals expected within the next decade. Most of these facilities are closely associated with outpatient services, such as physical therapy, sports medicine and cardiac rehabilitation, and frequently provide both types of programs in the same facility.

With an undergraduate degree and no experience, a starting salary averages $38,000 to $48,000 per year. However, the starting salary for health-fitness professionals is difficult to predict because of such factors as experience, geographic location, employment setting and market demand. It also may depend on licensure and certification. An advanced degree may pay more.

Pre-Professional and Professional Tracks

Admission to the pre-professional emphasis in ES occurs when the student applies to NDSU and declares an ES major. The pre-professional emphasis encompasses the first three semesters; transfer students are placed in the pre-professional emphasis upon acceptance. Entrance into the professional emphasis occurs through application at the end of the first semester of sophomore year or as transfer students complete the requirements below. The following requirements must be met before beginning the professional course of study:

1. Successful completion of courses with a grade of B or better:
    a. BIOL 220/220 L
    b. CHEM 121/121L
    c. HNES 170
    d. MATH 103,104 or higher
2. Minimum grade point average of 3.0
3. Completion of application to professional emphasis

Application guidelines are provided during classes (HNES 170) and advising sessions, and are also available on the department website.

High School Preparation

While in high school, a student should choose courses that provide a solid background in science, mathematics, business and communication. Individual commitment to lifetime fitness and personal health and well-being is very important. Volunteer work at a health-fitness facility and participation in local health fairs may provide valuable experiences in health-fitness programming.

Sample Curriculum

General Education	Credits
First Year Experience	
HD&E 189 - Skills for Academic Success	1
Communication	
COMM 110 - Fundamentals of Public Speaking	3
ENGL 110, 120 - College Composition I, II	3, 3
English Upper Level Writing Course	3
Quantitative Reasoning	
STAT 330 - Introductory Statistics	3
Science & Technology	
BIOL 220, 220L - Human Anatomy and Physiology I and Lab	4
CHEM 121 - General Chemistry I	3
CSCI 114 - Microcomputer Packages *or* CSCI 116 - Business Use of Computers	3 *or* 4
Humanities & Fine Arts	6
Social & Behavioral Sciences	
PSYC 111 - Introduction to Psychology	3
PSYC 211 - Introduction to Behavior Modification	3
Wellness	
HNES 250 - Nutrition Science	3
Cultural Diversity	-
Global Perspective	-
Total	**40**

Major Requirements	Credits
BIOL 221, 221L - Human Anatomy and Physiology II and Lab	4
CHEM 121L - General Chemistry I Lab	1
CHEM 122, 122L - General Chemistry II and Lab	4
HNES 170 - Introduction to Exercise Science	2
HNES 210 - First Aid and CPR	2
HNES 365 - Kinesiology	3
HNES 368 - Biomechanics of Exercise	3
HNES 370 - Exercise and Disease	3
HNES 371 - Worksite Health Promotion	3
HNES 374 - Methods in Resistance Training and Cardiovascular Conditioning	3
HNES 375 - Research Methods and Design in Exercise Science	3
HNES 465 - Physiology of Exercise	3
HNES 466 - Physiology of Exercise Lab	1
HNES 472 - Exercise Assessment and Prescription	3
HNES 475 - Exercise Science Internship	12
HNES 476 - Exercise Testing Laboratory	2
HNES 491 - Seminar	1
HNES 496 - Field Experience	2
PHYS 211, 211L - College Physics I and Lab	4
Total	**62**

Additional Requirements	Credits
Electives	19
Total	**19**
CURRICULUM TOTAL	**122**

For Further Information

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This sample curriculum is not intended to serve as a curriculum guide for current students, but rather an example of course offerings for prospective students. For the curriculum requirements in effect at the time of entrance into a program, consult with an academic advisor or with the Office of Registration and Records.

This publication will be made available in alternative formats upon request. Contact the Office of Admission (701) 231-8643 or 800-488-NDSU or ND Telecommunications Relay Service 800-366-6888 (TTY) or 800-366-6889 (voice).

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