## OVERVIEW

**WHY CHOOSE EXERCISE SCIENCE?**

Exercise Science is a great way for people who like to help others, and are passionate about health and fitness. These professionals learn to create individualized and group exercise programs for apparently healthy populations and special-need populations.

### DEGREES & CERTIFICATES IN EXERCISE SCIENCE

- Click on the REQUIREMENTS Tab above to find out the required courses to complete an Exercise Science Associate of Science degree.
- Associate of Science Degree in Exercise Science is a rigorous, science-based, 60-credit degree that includes several Exercise Science-specific courses and prepares students for transition similar to Exercise Science B.S. or B.A. programs.
- Be sure and check out receiving a Bachelor’s in Science in Exercise Science here at Normandale through Southwest Minnesota State University. Normandale has established a transfer agreement with Concordia-St. Paul University's Exercise Science Program.
- The Exercise Specialist Certificate includes courses that provide comprehensive curriculum designed to prepare students to successfully participate in the American College of Sports Medicine (ACSM) Certified Personal Training Examination and enter the workforce as a personal trainer working with generally healthy populations.

### RECOGNITION

The Exercise Department teaches the American College of Sports Medicine (ACSM) certification curriculum within their professional, required courses.

## CAREERS IN EXERCISE SCIENCE

### Projected Job Growth

The Bureau of Labor Statistics projects job growth of 19% from 2012 to 2022 for Exercise Physiologists and Athletic Trainers, and 13% for fitness trainers and instructors, faster than the average for all occupations.

### Types of Jobs

(see [Seek.org](https://seek.org))

Students who study in Exercise Science typically pursue careers as:

- Athletic Trainers
- Exercise Physiologists
- Fitness Trainers and Aerobics Instructors
- Physical Therapists

### Average State Pay

According to the Bureau of Labor Statistics, in 2012, athletic trainers and exercise physiologists earned an annual median salary of $42,690 nationally ($20.52 per hour). Fitness trainers and instructors earn a median salary of $31,720 per year ($15.25).

### Description

(see [Seek.org](https://seek.org))

Exercise physiologists develop fitness and exercise programs that help patients recover from chronic diseases or improve cardiovascular function, body composition, and flexibility.

### SKILLS ACQUIRED

(see [Seek.org](https://seek.org))

Exercise Science programs include topics such as:

- Human anatomy
- Kinesiology
- Therapeutic exercise and adapted physical education
- Motor learning and performance
- Patient assessment and management

### YOU MAY ALSO LIKE

(see [Seek.org](https://seek.org))

Students in Exercise Science may also pursue professions in:

- Athletic Training
- Exercise Physiology
- Orthotic and Prosthetic Therapies
- Pharmacology
- Physical Therapy
- Physical Therapy Assistanting
REQUIREMENTS

The Exercise Science Transfer Pathway (AS) offers students a powerful option: the opportunity to complete an Associate of Science degree with course credits that directly transfer to designated Exercise Science bachelor's degree programs at Minnesota State universities. The curriculum has been specifically designed so that students completing this pathway degree and transferring to one of the seven Minnesota State universities enter the university with junior-year status. All courses in the Transfer Pathway associate degree will directly transfer and apply to the designated bachelor's degree programs in a related field.

Students obtaining the Exercise Science degree will have a strong working knowledge of exercise and sport physiology, applied kinesiology and positive behavior change. This degree incorporates active classroom learning. These skills are emphasized to prepare students for future performance and therapeutic applications.

*Universities within the Minnesota State system include Bemidji State University; Metropolitan State University; Minnesota State University, Mankato; Minnesota State University Moorhead; Southwest Minnesota State University; St. Cloud State University; and Winona State University.

CORE COURSES - 17 CREDITS

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<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>EXSC 1129</td>
<td>Fitness for Life I</td>
<td>2</td>
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<td>EXSC 1200</td>
<td>Beginning Weight Training</td>
<td>1</td>
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<tr>
<td>EXSC 2300</td>
<td>Introduction to Exercise Science</td>
<td>3</td>
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<tr>
<td>EXSC 2350</td>
<td>Exercise Physiology</td>
<td>3</td>
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<tr>
<td>EXSC 2370</td>
<td>Foundations of Personal Training</td>
<td>3</td>
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<tr>
<td>EXSC 2355</td>
<td>Exercise Prescription</td>
<td>3</td>
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<tr>
<td>EXSC 2330</td>
<td>Applications of Personal Training</td>
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ADDITIONAL REQUIRED COURSES - 43 CREDITS

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<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
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<td>Freshman Composition</td>
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<tr>
<td>COMM 1100</td>
<td>Introduction to Human Communication</td>
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<tr>
<td>or COMM 1101</td>
<td>Fundamentals of Public Speaking</td>
<td>3</td>
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<tr>
<td>or COMM 1111</td>
<td>Interpersonal Communication</td>
<td>3</td>
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<td>or COMM 1123</td>
<td>Small Group Communication</td>
<td>3</td>
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<td>BIOL 1501</td>
<td>Principles of Biology I</td>
<td>5</td>
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<td>BIOL 2401</td>
<td>Human Anatomy</td>
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<td>BIOL 2402</td>
<td>Human Physiology</td>
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<td>CHEM 1050</td>
<td>Foundations of Organic and Biochemistry</td>
<td>3</td>
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<td>HLTH 1107</td>
<td>Principles of Nutrition</td>
<td>3</td>
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<td>MATH 1080</td>
<td>Introduction to Statistics</td>
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<tr>
<td>or MATH 1090</td>
<td>STATWAY Statistics 2</td>
<td>4</td>
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<td>PSYC 1110</td>
<td>Introduction to Psychology</td>
<td>4</td>
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</table>

- Complete one course (at least 3 credits) from MnTC Goal 5 (non-PSYC course) (3-4 credits)
- Complete two courses (at least 6 credits) from two different MnTC Goal areas, 7, 8, 9 or 10 (at least 6 credits)

OTHER DEGREE REQUIREMENTS

- Earn a minimum cumulative grade point average (GPA) of 2.0 for college-level coursework (courses numbered 1000 and above) completed at Normandale.
- Earn a minimum of 20 college-level credits at Normandale.
- Elective credits: additional course(s) numbered 1000 and above, if needed to complete the 60 credit requirement.

Coursework in this degree program satisfies a portion of the Minnesota Transfer Curriculum (MnTC). Please see MnTC Degree Audit Report.

COURSES

BIOL 2041 HUMAN ANATOMY | 4 CR
Prep: CHEM 1050, or CHEM 1051, (C or higher) or concurrent registration and eligible for READ 1106

A rigorous and demanding study of the human body, intended for students pursuing careers in the health professions. Emphasis includes both gross and microscopic anatomy. Laboratory includes small mammal dissection, basic histology, and the gross and microscopic study of the human organ systems. Small mammal dissection is required for course completion. Lecture 3 hours. Lab requires a minimum of 3 hours per week of self-directed lab work.

Credits: 4 Semesters: Fall, Spring

BIOL 2042 HUMAN PHYSIOLOGY | 4 CR
Prep: BIOL 2041, (C or higher), CHEM 1050, or CHEM 1051, (C or higher) MnTC Goals: 3

Examination of the principles of human biological function with emphasis on homeostatic mechanisms of the body. Lecture and laboratory experiences include EMG, ECG, pulmonary function, hormone studies, exercise studies, and independent investigations. Lecture 3 hours. Lab requires a minimum of 3 hours per week of scheduled and/or self-directed lab work.

Credits: 4 Semesters: Fall, Spring

CHEM 1050 FOUNDATIONS OF ORGANIC AND BIOCHEMISTRY | 3 CR
Prep: CHEM 1020 MnTC Goals: 3

This one-term laboratory course, designed for non-majors, builds on general chemistry concepts to provide an overview of organic and biochemistry with an emphasis on applications to the chemistry of the human body. Topics include solutions and body fluids, acid-base chemistry, relation between structure and reactivity for biochemical molecules, metabolic pathways, and applications of nuclear chemistry. Lecture 2 hours, lab 2 hours.

Credits: 3 Semesters: Fall, Spring

COMM 1111 INTERPERSONAL COMMUNICATION | 3 CR

Prep: CHEM 1020 MnTC Goals: 3

This course focuses on the development of verbal and non-verbal communication skills. Topics include listening, speech, and written communication. Lecture 3 hours, lab 2 hours.

Credits: 3 Semesters: Fall, Spring
The primary purpose of this course is to assist the student in examining and developing competence as an interpersonal communicator. Students will practice skills and learn strategies to develop and manage relationships more effectively in a variety of contexts.

Credits: 3 Semesters: Fall, Spring

CSCI 1100 FUNDAMENTALS OF COMPUTERS | 4 CR

Overview of the computer system: the CPU and chip technology, input and output, storage devices, communications and networks, the Internet and World Wide Web, programming and languages, operating systems, applications software, security, privacy and ethics, artificial intelligence, expert systems and robotics, virtual reality, ergonomics, Windows, word processing, spreadsheets, database management systems, presentation graphics.

Credits: 4 Semesters: Fall, Spring

ENG 1101 FRESHMAN COMPOSITION | 4 CR

Prereq: ENGL 0900 (C or higher) and eligible for READ 1106, or eligible for ENGL 1101 and READ 1106 MinTC Goals: 1

In this essential college-level writing course, students will practice the skills necessary for success in college and professional writing. Students will develop and apply critical reading and thinking skills in a variety of research and writing assignments, including analysis and argument, with some essays based on literary texts and other sources.

Credits: 4 Semesters: Fall, Spring

EXSC 1129 FITNESS FOR LIFE | 2 CR

Recommended: Eligible for READ 0960

Cardiovascular and strength enhancement through participation in an aerobic super circuit program. Selected strength training and cardiovascular equipment will be used. Assessment of current level of fitness helps students evaluate present status and set goals. Post test shows improvement and areas needing continued emphasis. Proper nutrition, weight management, and healthy lifestyle information is presented. Appropriate for all ages and fitness levels. Additional fee for this course.

Credits: 2 Semesters: Fall, Spring

EXSC 2300 INTRODUCTION TO EXERCISE SCIENCE | 3 CR

Recommended: Eligible for READ 1106 and ENGL 1101

An introduction to the science of human movement in a format of a lecture class. This course provides an overview of exercise physiology, sport and exercise psychology, biomechanics, motor behavior, sociocultural aspects of sport and exercise, sport nutrition, and other related topics. This course also provides information on the numerous areas of study and their applications within the field of kinesiology.

Credits: 3 Semesters: Fall, Spring

EXSC 2305 EXERCISE PHYSIOLOGY | 3 CR

Recommended: Eligible for READ 1106 and ENGL 1101

A lecture-based course designed to study the body's physiological responses from the cellular to organism system level to acute and chronic exercise. Emphasis on the physiological effects of muscular exercise, physical conditioning and sport-specific training. Provides the student with an opportunity to study how physiological responses to exercise are related to health, exercise performance, and personal training concerns.

Credits: 3 Semesters: Spring

EXSC 2310 FOUNDATIONS OF PERSONAL TRAINING | 3 CR

Recommended: Eligible for READ 1106

A comprehensive course to familiarize students with all aspects of personal training through the developmental curriculum designed by an accredited, nationally-recognized organization. This class is a preparatory course for becoming a Nationally-Certified Personal Trainer.

Credits: 3 Semesters: Fall, Spring

EXSC 2315 EXERCISE PRESCRIPTION | 3 CR

Prereq: EXSC 2310, or concurrent registration

A policy on exercise testing and exercise prescription, as applied to apparently healthy and special populations. Students will gain practical fitness test administration experience and utilize data to create safe and effective exercise programs.

Credits: 3 Semesters: Spring

HLTH 1103 COLLEGE FIRST AID AND ADULT CPR | 2 CR

This course provides a basic understanding of first aid, AED, and adult CPR principles, and covers fundamental skills necessary to sustain a life until Emergency Medical Services arrive at the scene. Students have the opportunity to earn CPR certification from the American Heart Association.

Credits: 2 Semesters: Fall, Spring

HLTH 1107 PRINCIPLES OF NUTRITION | 3 CR

Recommended: Eligible for READ 1106

Emphasis on physiological function of nutrients in the human body, including digestion, absorption, and metabolism. Basic principles of nutrition are used to demonstrate and evaluate disease preventing diets that are determined by scientific criteria. Application of nutrition theories are illustrated by an in-depth dietary analysis utilizing databases, calculations, and scientific inquiry. Taught by registered dietitians.
MATH 1100 COLLEGE ALGEBRA | 4 CR
Prereq: MATH 0700, or eligible for MATH 1100 MnTC Goals: 4
This is a college-level algebra course that emphasizes properties of functions and their graphs. Linear, quadratic, polynomial, rational, exponential and logarithmic functions are covered. Other topics include: solving equations and inequalities, and systems of equations and inequalities. This course also includes a basic introduction to right triangle trigonometry.

Credits: 4 Semesters: Fall, Spring

PSYC 1110 INTRODUCTION TO PSYCHOLOGY | 4 CR
Recommended: Eligible for READ 1106 MnTC Goals: 5
This course is an introduction to the scientific study of human behavior and mental processes. It prepares students for more advanced coursework in psychology and provides a basic understanding of psychology for those entering other fields. The course introduces the problems, methods, and findings of modern psychology to beginning students.

Credits: 4 Semesters: Fall, Spring

PSYC 2210 DEVELOPMENTAL PSYCHOLOGY: LIFE SPAN | 4 CR
Prereq: PSYC 1110 MnTC Goals: 5, 7
Developmental Psychology is the exploration of child, adolescent, and adult development beginning with conception and continuing through death. Emphasis is placed on the theoretical, experimental, and applied aspects of development. Physical, cognitive, and psychosocial realms of development will be investigated for each age range. Particular attention is given to the application of research and theory to current issues.

Credits: 4 Semesters: Fall, Spring

SOC 1101 CULTURAL DIVERSITY | 3 CR
Recommended: Eligible for ENGL 1101, and READ 1106 MnTC Goals: 5, 8
This course aims to promote understanding and appreciation of cultural diversity. Sociological and anthropological perspectives will be used to examine sociocultural diversity and multiculturalism, the challenges and opportunities they present, and their importance in our dynamic contemporary world. The course also emphasizes processes such as workplace diversity and long-term trends in multiculturalism, which are transforming our everyday experience. (Same as ANTH 1101.)

Credits: 3 Semesters: Spring

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