

### Duluth Campus

## Exercise and Rehabilitation Sciences B.A.Sc.

*D Applied Human Sciences*

### College of Education and Human Service Professions

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2022
- Required credits to graduate with this degree: 120
- Required credits within the major: 73 to 75
- Degree: Bachelor of Applied Science

The B.A.Sc. offers preparation for graduate school and a sound basis for professional training in the exercise and health sciences. The faculty in exercise science encourages students to develop as active scholars and to participate in undergraduate research. Abilities in math, science, and critical thinking are required for matriculation and graduation.

Most upper level EXSC courses have a graded laboratory component. Students work under supervision in the Exercise Physiology Laboratory, Biomechanics Laboratory, and Motor Learning Laboratory. Students combine theoretical knowledge with practical experience in electrocardiography, exercise testing, exercise supervision, and strength and conditioning procedures in a managed learning environment. They monitor and mentor students involved in exercise programs. Labs and other physical facilities allow learning via student research and activity. Substantial opportunities exist for interested students to conduct independent research under the guidance of faculty mentors. Such projects have the potential to be presented at the local, state, and national professional meetings. This provides students with an unparalleled opportunity for professional development and personal growth.

### Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

### Admission Requirements

For information about University of Minnesota admission requirements, visit the [Office of Admissions website](#).

#### Required prerequisites

##### Learning in Community (1 cr)

Requirement will be waived for transfer students with at least 30 credits taken post high school, for UMD students who started in a UMD collegiate unit where this is not required, and upon request for first-year students with 30 PSEO credits.

[UST 1000](#) - Learning in Community (1.0 - 2.0 cr)

or [EHS 1000](#) - Into the World [GLOBAL PER] (3.0 cr)

or [ES 1000](#) - Global Cultural Perspectives on Environmental Sustainability [GLOBAL PER] (3.0 cr)

or [LING 1000](#) - Language and Culture in the U.S. What does it Mean to Speak American [CDIVERSITY] (3.0 cr)

or [PSY 1100](#) - Living Your Best Life: Applying Positive Psychology [CDIVERSITY] (3.0 cr)

### General Requirements

The Board of Regents, on recommendation of the faculty, grants degrees from the University of Minnesota. Requirements for an undergraduate degree from University of Minnesota Duluth include the following:

1. Students must meet all course and credit requirements of the departments and colleges or schools in which they are enrolled including an advanced writing course. Students seeking two degrees must fulfill the requirements of both degrees. However, two degrees cannot be awarded for the same major.
2. Students must complete all requirements of the [Liberal Education Program](#).
3. Students must complete a minimum of 120 semester credits.
4. At least 30 of the last 60 degree credits earned immediately before graduation must be awarded by UMD.
5. Students must complete at least half of their courses at the 3xxx-level and higher at UMD. Study-abroad credits earned through courses taught by UM faculty and at institutions with which UMD has international exchange programs may be used to fulfill this requirement.
6. If a minor is required, students must take at least three upper division credits in their minor field from UMD.
7. The minimum cumulative UM GPA required for graduation will be 2.00 and will include only University of Minnesota coursework. A minimum UM GPA of 2.00 is required in each UMD undergraduate major and minor. No academic unit may impose higher grade point standards to graduate.
8. Diploma, transcripts, and certification will be withheld until all financial obligations to the University have been met.



## Program Requirements

### Foundational Sciences (26 - 28 cr)

First biology, chemistry and mathematics course is determined by ACT mathematics score. This program supposes placement directly in each required course.

#### Biology

[BIOL 1011](#) - General Biology I [LE CAT, NAT SCI] (5.0 cr)

or [BIOL 1170](#) *{Inactive}* [NAT SCI] (4.0 cr)

#### Chemistry

[CHEM 1113](#) - Introduction to General, Organic, and Biological Chemistry I [LE CAT, NAT SCI] (5.0 cr)

or [CHEM 1153](#) - General Chemistry I [LE CAT, NAT SCI] (4.0 cr)

[CHEM 1154](#) - General Chemistry Lab I [LE CAT, NAT SCI] (1.0 cr)

#### Mathematics

[MATH 1005](#) - College Algebra (5.0 cr)

or [MATH 1160](#) - Finite Mathematics and Introduction to Calculus [LE CAT, LOGIC & QR] (5.0 cr)

or [MATH 1250](#) - Precalculus Analysis [LE CAT2, LOGIC & QR] (4.0 cr)

or [MATH 1290](#) - Calculus for the Natural Sciences [LE CAT2, LOGIC & QR] (5.0 cr)

or [MATH 1296](#) - Calculus I [LE CAT, LOGIC & QR] (5.0 cr)

#### Physics

[PHYS 1001](#) - Introduction to Physics I [LE CAT, NAT SCI] (5.0 cr)

#### Anatomy & Physiology

[HLTH 2030](#) - Human Anatomy and Physiology I with lab (4.0 cr)

[HLTH 2040](#) - Human Anatomy and Physiology II with Lab (4.0 cr)

### Advanced Writing (3 cr)

[WRIT 3150](#) - Advanced Writing: Science (3.0 cr)

or [WRIT 3160](#) - Advanced Writing: Social Sciences (3.0 cr)

### EXSC Core (43 cr)

#### Lower Division

[EXSC 1000](#) - Introduction to Exercise Science Foundations and Exploration for Allied Health Professions (1.0 cr)

[EXSC 2420](#) - Aerobic and Fitness Assessment Techniques in Exercise Science (1.0 cr)

[EXSC 2430](#) - Resistance Training Techniques in Exercise Science (1.0 cr)

#### Upper Division

[EXSC 3200](#) - Motor Learning and Control (4.0 cr)

[EXSC 3210](#) - Exercise Adherence (3.0 cr)

[EXSC 3300](#) - Human Biomechanics (4.0 cr)

[EXSC 3400](#) - Exercise Physiology (4.0 cr)

[EXSC 3410](#) - Exercise Metabolism and Nutrition (3.0 cr)

[EXSC 3420](#) - Exercise Testing and Prescription (3.0 cr)

[EXSC 3430](#) - Principles of Resistance Training: Scientific Foundations and Practical Applications (3.0 cr)

[EXSC 3440](#) - Clinical Exercise Physiology (4.0 cr)

[EXSC 4700](#) - Statistics and Research Methods in Exercise Science (3.0 cr)

[EXSC 4710](#) - Applied and Experimental Exercise Science (3.0 cr)