Duluth Campus

Exercise Science 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 2016
- Required credits to graduate with this degree: 120
- Required credits within the major: 93 to 94
- 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. The B.A.Sc. degree is detailed and specific with a required concentration in either health fitness or exercise and sport science. Abilities in math, science, and critical thinking are required for matriculation and graduation.
Most upper level ESAT courses have a graded laboratory component. Students work under supervision in the Exercise Physiology Laboratory, Biomechanics Laboratory, and Motor Learning and Vision Laboratory. Students combine theoretical knowledge with practical experience in electrocardiography, exercise testing, exercise supervision, applied nutrition, 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 potential to be presented at the local, state, and national professional meetings. This provides students with 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

Introductory Course (1 cr)

This course will be waived for transfer students or students who change colleges from a college where it is not required.

Register course for one credit.
UST 1000 - Learning in Community (1.0 - 2.0 cr)

Courses From Other Programs (37 cr)

First math course, chemistry course and biology course is determined by ACT math score. This program supposes placement directly in each required course.
BIOL 1011 - General Biology I [LE CAT, NAT SCI] (5.0 cr)
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)
HLTH 1470 - Human Nutrition [LE CAT, NAT SCI] (3.0 cr)
HLTH 2030 - Human Anatomy and Physiology I with lab (4.0 cr)
HLTH 2040 - Human Anatomy and Physiology II with Lab (4.0 cr)
MATH 1250 - Precalculus Analysis [LE CAT2, LOGIC & QR] (4.0 cr)
PHYS 1001 - Introduction to Physics I [LE CAT, NAT SCI] (5.0 cr)
PSY 1003 - General Psychology [LE CAT, SOC SCI] (4.0 cr)
WRIT 3150 - Advanced Writing: Science (3.0 cr)
or WRIT 3160 - Advanced Writing: Social Sciences (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

ESAT Core Courses (37 cr)

Required for all concentrations

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)

Program Sub-plans

Students are required to complete one of the following sub-plans.

Exercise and Sport Science

The bachelor of applied science (B.A.Sc.) in exercise science with a concentration in exercise and sport science prepares students for admission to graduate programs in exercise science (biomechanics, exercise physiology, sports psychology), the health professions (including medicine, physician assistant, occupational and physical therapy), and clinically applied professions such as clinical exercise physiologist and cardiac rehabilitation. This area of study is primarily for students who intend to pursue advanced degrees in an exercise science specialization or to seek admission to a professional program in the health sciences.

The required curriculum includes a liberal education background, a core of basic and applied sciences, and courses in the exercise science sub-disciplines, and either a senior project or an internship in a sport, exercise, educational, or public service/workplace setting. This area of study is primarily for students who intend to pursue advanced degrees in an exercise science specialization or to seek admission to a professional program in the health sciences.

Exercise and Sport Science Core Courses (4 cr)

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

Courses From Other Programs (15 cr)

BIOL 1012 - General Biology II [SUSTAIN] (5.0 cr)
CHEM 1155 - General Chemistry II (4.0 cr)
CHEM 1156 - General Chemistry Lab II (1.0 cr)
PHYS 1002 - Introduction to Physics II (5.0 cr)

Health and Fitness

The bachelor of applied science (B.A.Sc.) in exercise science, with a concentration in health fitness, prepares students for professional involvement with clients in clinical, commercial, corporate, and service agency fitness and health programs. The curriculum prepares students to demonstrate the knowledge, skills, and abilities outlined by the American College of Sports Medicine (ACSM) for professionals in clinical and health-related programs. Completion of the degree program does not ensure ACSM certification.

Health and Fitness Core Courses (18 cr)

Students take ESAT 4996 for 6 credits.

EXSC 4996 - Internship (1.0 - 12.0 cr)

Electives (12 credits) any UMD 3xxx or higher course

Special Interest

The bachelor of applied science (B.A.Sc.) in exercise science special area of interest concentration prepares students for admission to unique graduate programs in exercise or related sciences that fall outside those prepared for with health and fitness and exercise sport science concentration curricula. Working in consultation with an exercise science faculty sponsor, the student submits a course plan and request to enroll in this concentration. The plan must include 19 or more credits of 3xxx or 4xxx courses and explain how each fits in the unique curricular goal. After departmental approval, the planned courses will comprise the student's concentration.

Special Area Courses (19 credits)

19 credits 3xxx or above, department approval required.