Exercise Science, B.S. *major*
Medical Fitness Emphasis

A total of 120 semester credits are needed for the **Exercise Science, Medical Fitness emphasis B.S.** degree and include the following:

- 40 upper division credits (level 3000/4000)
- 67 required major core credits
- Completion of Core Curriculum credits (Minnesota Transfer Curriculum [MnTC] Goal Areas 1-10) - required for all baccalaureate degrees
- Completion of BSU Focus and Nisidotaading Course Requirements

Dual Degrees
Students wishing to complete two degrees concurrently, (example: Bachelor of Science and Bachelor of Arts) must complete a minimum of an additional 30 credits above the required 120 credits.

Multiple Credentials
Any additional major, minor or certificate in a degree must have at least 6 credits of course work not used to meet the requirements of another major, minor or certificate in the degree.

Required Credits: 67
Required GPA: 2.25

I REQUIRED COURSES

Complete the following courses:

- BIOL 1400 Cellular Principles (4 credits)
- BIOL 3250 Human Anatomy (4 credits)
- HLTH 2100 First Aid and CPR/AED (1 credit)
- HLTH 3300 Nutrition (3 credits)
- PHED 1240 Skills for Life: Techniques of Neuromuscular Relaxation (1 credit)
- PHED 2100 Foundations of Physical Education, Exercise Science, and Sport (3 credits)
- PHED 3100 Motor Development (2 credits)
- PHED 3110 Motor Learning (2 credits)
- PHED 3120 Psychology of Sport (2 credits)
- PHED 3190 Athletic Training (2 credits)
- PHED 3200 Introduction to Sport Biomechanics (3 credits)
- PHED 3300 Physiology of Exercise and Nutrition (3 credits)
- PHED 4160 Advanced Fitness Assessment & Prescription-Aerobic (3 credits)
- PHED 4170 Advanced Principles for Strength and Speed Training Exercise (3 credits)
- PHED 4309 Legal Aspects of Sport, Health, and Fitness (3 credits)

- PHED 4920 DGS: (1 credit)

Select 1 course:

- CHEM 1111 General Chemistry I (4 credits)
- CHEM 2211 Principles of Chemistry I (4 credits)

Select 1 course:

- PHYS 1101 General Physics I (4 credits)
- PHYS 2101 University Physics I (4 credits)

II REQUIRED EMPHASIS

A. Medical Fitness Emphasis

- BIOL 3260 Human Physiology (4 credits)
- HLTH 3710 Disease Prevention and Epidemiology (3 credits)
- PSY 3401 Basic Statistics for Research (4 credits)
  or STAT 3660 Statistics for the Health Sciences (3 credits)

III EMPHASIS ELECTIVES

Select 3 courses (7-15 credits) from the following with consultation with your advisor:

Note: BIOL 3260 and HLTH 3710 may not be used as an elective with the Medical Fitness emphasis.

- BIOL 1300 Medical Terminology (2 credits)
- BIOL 1500 Diversity of Life (4 credits)
- CHEM 1112 General Chemistry II (4 credits)
  or CHEM 2212 Principles of Chemistry II (4 credits)
- HLTH 3500 Community Health (3 credits)
- PHYS 1102 General Physics II (4 credits)
  or PHYS 2102 University Physics II (4 credits)
- PSY 1100 Introductory Psychology (4 credits)
- PSY 2217 Psychopathology and Wellness (4 credits)
- PSY 3237 Lifespan Development (4 credits)

Nursing 3000 or higher (2-6 credits):

IV REQUIRED PRACTICAL EXPERIENCE

Complete 2-6 credits of the following course:

- PHED 4972 Internship: Exercise Science (2-6 credits)

Program Learning Outcomes | Exercise Science, B.S.

1. Demonstrates Scientific Knowledge:

   Students will demonstrate a basic knowledge of:

   1. human anatomy and physiology

   2. exercise physiology

   3. biomechanics

   4. nutrition

   5. motor learning and development

   6. injury care and prevention

   7. first aid and emergency procedures

2. Demonstrate ability to prescribe exercise:

   Students will demonstrate:

   1. skills for physiological testing including evaluation and interpretation of results

   2. the ability to prescribe individual exercise programs with modifications in type, intensity, duration, frequency, and progression for special populations

   3. the ability to lead exercises in aerobic exercise, strength conditioning and joint flexibility

3. Demonstrate knowledge of behavior modification/change, educational resources, and healthy lifestyle behaviors:

Students will demonstrate knowledge of:

1. counseling techniques to facilitate behavior change and motivation
2. mental health's role in exercise and rehabilitation
3. client/patient/athlete education

4. Demonstrate Knowledge of Administrative Tasks:

Students will demonstrate:

1. knowledge of trends in fitness programming and health promotion

2. the ability to use common fitness assessment equipment and demonstrate knowledge of risk management

3. knowledge of how to organize records and provide a safe environment for exercise

5. Demonstrate Professional Working Skills:

Students will demonstrate:

1. the ability to communicate in writing and speaking

2. knowledge of techniques for motivating, improving program adherence and retention

3. the ability to understand and conduct scientific research

6. Identifies Professional Development:

Students will:

1. demonstrate knowledge of leading professional organizations in exercise science, wellness, sport and sports medicine and relevant publications and continuing education opportunities

2. identify a professional development strategy, including certifications to improve employability

3. have at least 60 hours of practical experience in research or at a worksite