BS in Exercise Science (663435) MAP Sheet
Life Sciences, Exercise Sciences
For students entering the degree program during the 2020-2021 curricular year.

University Core and Graduation Requirements

### University Core Requirements:

<table>
<thead>
<tr>
<th>Requirements</th>
<th>#Classes</th>
<th>Hours</th>
<th>Classes</th>
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</thead>
<tbody>
<tr>
<td><strong>Religion Cornerstones</strong></td>
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<tr>
<td>Teachings and Doctrine of</td>
<td>1</td>
<td>2.0</td>
<td>REL A 275</td>
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<tr>
<td>The Book of Mormon</td>
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<tr>
<td>Jesus Christ and the</td>
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<td>2.0</td>
<td>REL A 250</td>
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<tr>
<td>Everlasting Gospel</td>
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<tr>
<td>Foundations of the</td>
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<td>REL C 225</td>
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<tr>
<td>Restoration</td>
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<tr>
<td>The Eternal Family</td>
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<td>REL C 200</td>
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<td>**The Individual and</td>
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<tr>
<td>Society**</td>
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<tr>
<td>American Heritage</td>
<td>1-2</td>
<td>3-6.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Global and Cultural</td>
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<td>3.0</td>
<td>from approved list</td>
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<tr>
<td>Awareness</td>
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<td><strong>Skills</strong></td>
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<tr>
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<tr>
<td>Advanced Written and Oral</td>
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<td>from approved list</td>
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<tr>
<td>Communications</td>
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<tr>
<td><strong>Quantitative Reasoning</strong></td>
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<td>1</td>
<td>3-4.0</td>
<td>MATH 110, 111, 112*, 118 or</td>
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<td></td>
<td></td>
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<td>119* or STAT 121*</td>
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<td><strong>Languages of Learning</strong></td>
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<tr>
<td>(Math or Language)</td>
<td>1</td>
<td>3.0</td>
<td>MATH 112*, 118 or 119* or</td>
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<td></td>
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<td></td>
<td>STAT 121*</td>
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<tr>
<td>**Arts, Letters, and</td>
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<tr>
<td>Sciences**</td>
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<tr>
<td>Civilization 1</td>
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<td>3.0</td>
<td>from approved list</td>
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<tr>
<td>Civilization 2</td>
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<td>from approved list</td>
</tr>
<tr>
<td>Arts</td>
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<tr>
<td>Letters</td>
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<td>3.0</td>
<td>from approved list</td>
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<tr>
<td>Biological Science</td>
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<td>3.0</td>
<td>PDBIO 120* or NDFS 100*</td>
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<tr>
<td>Physical Science</td>
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<td>3.0</td>
<td>CHEM 105* or PHSCS 105*</td>
</tr>
<tr>
<td>Social Science</td>
<td>1</td>
<td>3.0</td>
<td>PSYCH 111*, SOC 111* or 112*</td>
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</tbody>
</table>

### Core Enrichment: Electives

<table>
<thead>
<tr>
<th>Requirement</th>
<th>#Classes</th>
<th>Hours</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religion Electives</td>
<td>3-4</td>
<td>6.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Open Electives</td>
<td>Variable</td>
<td>Variable</td>
<td>personal choice</td>
</tr>
</tbody>
</table>

*THESE COURSES FILL UNIVERSITY CORE AND PROGRAM REQUIREMENTS

### Graduation Requirements:

- Minimum residence hours required: 30.0
- Minimum hours needed to graduate: 120.0

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**Suggested Sequence of Courses**

### FRESHMAN YEAR

1st Semester
- First-year Writing or American Heritage 3.0
- Religion cornerstone course 2.0
- PDBIO 120 (Biological Science) 3.0
- Civilization 1 elective 3.0
- CHEM 105 4.0
- Quantitative Reasoning (if required)** 0-3.0

Total Hours 15-18.0

**If the student needs to complete this requirement, it is strongly suggested they do so before the first semester of the freshman year.

2nd Semester
- First-year Writing or American Heritage 3.0
- Arts or Letters elective 3.0
- CHEM 106 & 107 4.0
- STAT 121 3.0
- Religion Cornerstone course 2.0

Total Hours 15.0

### SOPHOMORE YEAR

3rd Semester
- Civilization 2 elective 3.0
- PHSCS 105 & 107 4.0
- NDFS 100 3.0
- Social Science elective 3.0
- Religion Cornerstone course 2.0

Total Hours 15.0

4th Semester
- Arts or Letters elective 3.0
- Global & Cultural Awareness elective 3.0
- MMBIO 240 3.0
- PDBIO 220 4.0
- Religion Cornerstone course 2.0

Total Hours 15.0

### JUNIOR YEAR

5th Semester
- PDBIO 305 or 362 and 363 4.0
- EXSC 362 3.0
- General Education courses, and/or general electives 3.0
- Adv. Written & Oral Communication 3.0
- Religion elective 2.0

Total Hours 15.0

6th Semester
- EXSC 463 3.0
- EXSC 464 0.5
- Major elective (from Requirement 2) 3.0
- EXSC 440 4.0
- Religion elective 2.0
- General electives 4.0

Total Hours 16.5

### SENIOR YEAR

7th Semester
- Major Elective (from Requirement 2) 3.0
- Major Elective (from Requirement 5) 3.0
- General Electives 7.0
- Religion elective 2.0

Total Hours 15.0

8th Semester
- Major Elective (from Requirement 2) 3.0
- Major Elective (from Requirement 2) 3.0
- Major Elective (from Requirement 5) 3.0
- General Electives 6.0

Total Hours 15.0

Please check with departments for current availability of all courses.

**Note:** Students are encouraged to complete an average of 15–16 credit hours each semester or 30–32 credit hours each year, which could include spring and/or summer terms. Taking fewer credits substantially increases the cost and the number of semesters to graduate.
Complete a senior exit interview.

**REQUIREMENT 1** Complete 4 courses

**MAJOR COURSES:**
- EXSC 362 - Kinesiology and Biomechanics 3.0
- EXSC 440 - Advanced Musculoskeletal Human Anatomy (includes lab) 4.0
- EXSC 463 - Exercise Physiology 3.0
- EXSC 464 - Exercise Physiology Lab 0.5

**REQUIREMENT 2** Complete 12.0 hours from the following course(s)

- EXSC 221 - Science of Exercise 3.0
- EXSC 320 - Basic Athletic Training 3.0
- EXSC 321 - Basic Athletic Training Lab 0.5
- EXSC 350 - Research Methods and Evidence Based Practices 3.0
- EXSC 387 - Lifestyle and Chronic Disease Prevention 3.0
- EXSC 460 - Orthopaedic Impairments and Therapeutic Exercise 3.0
- EXSC 462 - Clinical Biomechanics 3.0
- EXSC 466 - Introduction to Electrocardiograms 2.0
- EXSC 468 - Problems in Exercise Prescription 2.0
- EXSC 470 - Functional Neuroanatomy 3.0
- EXSC 497R - Undergraduate Research and Study 4.0

You may take up to 3 credit hours.

**OPTION 4.2**

- PDBIO 363 - Advanced Physiology Laboratory 1.0

**REQUIREMENT 5** Complete 6.0 hours from the following course(s)

**SOME OF THESE ELECTIVES HAVE REQUIRED PREREQUISITES.**

- CHEM 285 - Introductory Bio-organic Chemistry 4.0
- CHEM 351 - Organic Chemistry 1 3.0
- CHEM 351M - Organic Chemistry 1 - Majors 3.0
- CHEM 352 - Organic Chemistry 2 3.0
- CHEM 352M - Organic Chemistry 2 - Majors 3.0
- CHEM 353 - Organic Chemistry Laboratory - Nonmajors 2.0
- CHEM 481 - Biochemistry 3.0
- CHEM 481M - Biochemistry - Majors 3.0
- EXSC 399R - Exercise Sciences Internship 9.0
- EXSC 399R - Huntsman World Senior Games Internship 2.0
- HLTH 310 - (Not currently offered) 3.0
- HLTH 320 - Advanced First Aid and Safety 3.0
- HLTH 335 - Health Behavior Change 3.0
- *MATH 112 - Calculus 1 4.0
- MATH 119 - Introduction to Calculus 4.0
- MMBIO 221 - General Microbiology 3.0
- MMBIO 222 - General Microbiology Laboratory 1.0
- MMBIO 241 - Molecular and Cellular Biology Laboratory 1.0
- NDFS 200 - Nutrient Metabolism 3.0
- NDFS 201 - Society, Nutrition, and Chronic Disease 2.0
- NDFS 305 - Nutritional Implications of Disease 4.0
- NDFS 310 - Nutrition and Metabolism in Sports and Exercise 3.0
- PDBIO 330 - Dissection Techniques in Human Anatomy 1.0
- PDBIO 335 - Tissue Biology (with lab) 3.0
- PDBIO 336 - Cell Biology 3.0
- PDBIO 339 - Advanced Physiology Laboratory 1.0
- PDBIO 365 - Pathophysiology 4.0
- PDBIO 484 - Human Embryology 3.0
- PDBIO 561 - Physiology of Drug Mechanisms 3.0
- PDBIO 565 - Endocrinology 3.0
- PHSCS 196 - General Physics 2 3.0
- PHSCS 198 - General Physics Lab 2 1.0
- *PSYCH 111 - Introduction to Psychological Science 3.0
- PSYCH 220 - Human Development: Life Span 3.0
- PSYCH 342 - Abnormal Psychology 3.0
- PWS 340 - Genetics 3.0
- SOC 111 - Introductory Sociology 3.0
- SOC 112 - Current Social Problems 3.0
- STDEV 170 - Introduction to Health Professions 1.0
- STDEV 317 - Career Strategies for Employment and Internships 2.0

**Note to Students Desiring to Pursue Master of Athletic Training (MAT) degree:** In order to prepare for acceptance into the MAT graduate degree program, you must take the following courses during your BS Exercise Science major: EXSC 320, 321, 387, 501, 516, 517, 518, 601, and PSYCH 111. Contact Life Sciences Advisement (2060 LSB) for additional information (lasc.byu.edu; 801-422-3042; lifesciences@byu.edu). See MAT website for details. Some elective courses may be offered only in Spring term.

**Note to Premed Students:** Professional schools and graduate programs may require additional courses not required for this major. Contact the programs to which you may apply to determine specific courses that meet their entrance requirements. Students considering professional or graduate degrees should take at least two semesters of mathematical courses. The following required or elective courses are strongly recommended for students considering professional or graduate degrees in the exercise sciences: MMBio 241; PDBio 360, 362, 363; Chem 351, 352, 353, 481; Math 119; Stat 121. For more information contact the Preprofessional Advisement Center, 3328 WSC, (801) 422-3044. Contact potential schools of choice for a complete list of entrance requirements.

**THE DISCIPLINE**

The exercise science program is designed to prepare students for entry into graduate school in one of the disciplines related to exercise science or one of the healthcare professional schools.

Students majoring in exercise science explore how the body functions during physical activity and exercise. Principles and concepts taught in human anatomy and physiology, exercise physiology, biomechanics, neurophysiology, chemistry, physics, and nutrition are mastered to help understand how the body responds to acute bouts of exercise and how it adapts to chronic physical activity and exercise. The impact that physical activity and exercise have on one’s capacity to do work, physical performance, as well as its impact on health and disease makes study of this discipline rewarding.
Note to students who plan to pursue postgraduate education in various health care fields: The following required or elective courses are strongly recommended for students considering postgraduate professional degrees or graduate degrees in exercise sciences, but are not required for this program: MMBio 241; PDBio 360, 362, 363; CHEM 351, 352, 353, 481; MATH 112; PHSCS 106 & 108; PWS 340. Contact potential schools of choice for a complete list of entrance requirements. Professional schools and graduate programs may require other additional courses not required for this major. Contact the postgraduate programs to which you may apply to determine specific courses that meet their entrance requirements. Students considering professional or graduate degrees should take at least two semesters of mathematical courses.

For more information, contact the Preprofessional Advisement Center, 3328 WSC, 801-422-3044.

CAREER OPPORTUNITIES

The exercise science degree provides excellent preparation for students interested in graduate work in exercise science fields (e.g., exercise physiology M5 or PhD) or those desiring to pursue training in medicine, physical therapy, cardiac rehabilitation, podiatry, chiropractic, and other health care professions. Graduates with this major may find opportunities in community, corporate or hospital wellness or fitness centers, and health promotion programs.

The major is designed to prepare students to enter graduate programs in several health related professions; specifically exercise science master and doctoral programs. Those who complete graduate work in exercise science are most likely to be employed as a professor/researcher in a university setting. In addition to graduate studies in exercise science, students are also prepared to attend medical school, dental school, osteopathy school, physician assistant and nursing programs, and chiropractic school.

Salary varies with the terminal degree sought, the choice of career specialty, and geographic location of employment or practice. Earnings for those with certain medical and dental specialties are potentially lucrative.