



BS in EXERCISE SCIENCE (663435) MAP Sheet

Department of Exercise Sciences

For students entering the degree program during the 2016–2017 curricular year.

| UNIVERSITY CORE AND GRADUATION REQUIREMENTS | | | | PROGRAM REQUIREMENTS (58.5-59.5 total hours) | | | |
|---|-----------------|--------------|------------------------------|---|------|--|------|
| UNIVERSITY CORE REQUIREMENTS | | | | Complete senior exit interview. | | | |
| | | | | (continued from previous column) | | | |
| <u>Requirements</u> | <u>#Classes</u> | <u>Hours</u> | <u>Classes</u> | Complete the following: | | | |
| Religion Cornerstones | | | | Chem 105* General College Chemistry | 4.0 | Hlth 310 Chronic Diseases: Prevention & Control | 3.0 |
| Teachings & Doctrine, Book of Mormon | 1 | 2.0 | Rel A 275 | Chem 106 General College Chemistry | 3.0 | Hlth 320 Advanced First Aid and Safety | 3.0 |
| Jesus Christ & the Everlasting Gospel | 1 | 2.0 | Rel A 250 | Chem 107 General College Chemistry Lab | 1.0 | Hlth 335 Health Behavior Change | 3.0 |
| Foundations of the Restoration | 1 | 2.0 | Rel C 225 | MMBio 240* Molecular Biology | 3.0 | Math 112* Calculus 1 | 4.0 |
| The Eternal Family | 1 | 2.0 | Rel C 200 | NDFS 100 Essentials of Human Nutrition | 3.0 | Math 119* Introduction to Calculus | 4.0 |
| The Individual and Society | | | | PDBio 120* Science of Biology | 2.0 | MMBio 221 General Microbiology | 3.0 |
| Citizenship | | | | PDBio 220 Human Anatomy (with lab) | 3.0 | MMBio 222 General Microbiology Laboratory | 1.0 |
| American Heritage | 1–2 | 3–6.0 | from approved list | Phscs 105* General Physics 1 | 3.0 | MMBio 241 Molecular & Cellular Biology Lab | 1.0 |
| Global & Cultural Awareness | 1 | 3.0 | from approved list | Phscs 106 General Physics 2 | 3.0 | NDFS 200 Nutrient Metabolism | 3.0 |
| Skills | | | | Phscs 107 General Physics Lab 1 | 1.0 | NDFS 201 Society, Nutrition, & Chronic Disease | 2.0 |
| Effective Communication | | | | Phscs 108 General Physics Lab 2 | 1.0 | NDFS 305 Nutritional Implications Of Disease | 4.0 |
| First-Year Writing | 1 | 3.0 | from approved list | Complete one of the following options: | | NDFS 310 Nutrition & Metabolism in Sports & Exercise | 2.0 |
| Adv Written & Oral Communication | 1 | 3.0 | Engl 316 recommended | Either | | (Prerequisites: NDFS 100 and PDBio 305) | |
| Quantitative Reasoning | 0–1 | 0–4.0 | Math 112*, 119* or Stat 121* | PDBio 305 Human Physiology (no lab§) | 4.0 | PDBio 320 Dissection Techniques in Human Anatomy | 1.0 |
| Languages of Learning (Math or Language) | 1 | 3–4.0 | Math 112*, 119* or Stat 121* | Or | | PDBio 325 Tissue Biology (with lab) | 3.0 |
| Arts, Letters, and Sciences | | | | PDBio 362 Advanced Physiology | 3.0 | PDBio 360 Cell Biology | 3.0 |
| Civilization 1 and 2 | 2 | 6.0 | from approved list | PDBio 363 Advanced Physiology Lab | 1.0 | PDBio 363 Advanced Physiology Laboratory | 1.0 |
| Arts | 1 | 3.0 | from approved list | Complete the following major courses: | | PDBio 365 Pathophysiology | 4.0 |
| Letters | 1 | 3.0 | from approved list | ExSc 302 Philosophical & Ethical Issues | 1.0 | PDBio 484 Human Embryology | 3.0 |
| Scientific Principles & Reasoning | | | | ExSc 320 Basic Athletic Training | 3.0 | PDBio 561 Physiology of Drug Mechanisms | 3.0 |
| Biological Science | 2 | 5.0 | MMBio 240*, PDBio 120* | (Prerequisite: PDBio 220) | | PDBio 565 Endocrinology | 3.0 |
| Physical Science | 2 | 7.0 | Chem 105* and Phscs 105* | ExSc 362 Kinesiology & Biomechanics | 3.0 | Psych 111* Introduction to Psychological Science | 3.0 |
| Social Science | 1 | 3.0 | Psych 111*, Soc 111* or 112* | ExSc 387 Lifestyle & Chronic Disease Prevention | 3.0 | Psych 220 Human Development: Life Span | 3.0 |
| Core Enrichment: Electives | | | | ExSc 390 Adv. Musculoskeletal Human Anatomy | 4.0 | Psych 342 Abnormal Psychology | 3.0 |
| Religion Electives | 3–4 | 6.0 | from approved list | (Includes lab) | | PWS 340 Genetics | 3.0 |
| Open Electives | Variable | Variable | personal choice | (Prerequisite: PDBio 220) | | Soc 111* Introductory Sociology | 3.0 |
| GRADUATION REQUIREMENTS: | | | | ExSc 460 Orthopaedic Impairments & Therapeutic Ex | 3.0 | Soc 112* Current Social Problems | 3.0 |
| Minimum residence hours required | | 30.0 | | (Prerequisites: PDBio 220 and ExSc 390) | | Stat 121* Principles of Statistics | 3.0 |
| Minimum hours needed to graduate | | 120.0 | | ExSc 463 Exercise Physiology | 3.0 | StDev 170 Introduction to Health Professions | 1.0 |
| | | | | (Prerequisite: PDBio 305 or PDBio 362) | | StDev 399R Health Professions Internship | 3.0V |
| | | | | ExSc 464 Exercise Physiology Lab | 0.5 | Note: Watch for prerequisites for the elective courses. | |
| | | | | Complete 8 hours from the following: | | Notes: 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. | |
| | | | | Chem 285 Introductory Bio-organic Chemistry | 4.0 | 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. | |
| | | | | Chem 351 Organic Chemistry | 3.0 | 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. | |
| | | | | Chem 352 Organic Chemistry | 3.0 | | |
| | | | | Chem 353 Organic Chemistry Laboratory–Nonmajors | 2.0V | | |
| | | | | Chem 481 Biochemistry | 3.0 | | |
| | | | | ExSc 221 Science of Wellness | 3.0 | | |
| | | | | ExSc 321 Basic Athletic Training Lab | 0.5 | | |
| | | | | ExSc 455 Worksite Health Promotion | 3.0 | | |
| | | | | (Prerequisites: ExSc 387 and ExSc 463) | | | |
| | | | | ExSc 468 Problems in Exercise Prescription | 2.0 | | |
| | | | | (Prerequisite: ExSc 463) | | | |
| | | | | ExSc 470 Functional Neuroanatomy | 3.0 | | |
| | | | | (Prerequisites: ExSc 390 and PDBio 220) | | | |
| | | | | ExSc 497R Undergraduate Research and Study | 4.0V | | |
| | | | | § If lab is needed, take PDBio 363. | | | |
| | | | | (Continued in next column) | | | |

*THESE COURSES FILL UNIVERSITY CORE AND PROGRAM REQUIREMENTS (18–19 hours overlap)

**BS in EXERCISE SCIENCE (663435)
2016–2017**

Life Sciences Student Services
2060 LSB
(801) 422-3042
email: lifesciences@byu.edu

Preprofessional Advisement Center
3328 WSC
(801) 422-3044

This suggested plan of study averages 14-16 credit hours per semester without taking Spring or Summer terms. If classes are taken during Spring or Summer terms, lighter loads can be taken in the Fall or Winter semesters—especially during the Freshman year or when other classes are demanding. Most of the GE requirements should be completed in the first two years of study. Some of the GE requirements are taken later to allow completion of 100-200-level science courses (chemistry, physics, biology) by the fifth semester. The sequence of GE requirements is only a suggestion and can be modified to accommodate course availability and scheduling conflicts. Some classes count as two GE requirements. See the college advisement center for advisement.

Suggested Sequence of Courses:

FRESHMAN YEAR

1st Semester

| | |
|--------------------------------------|----------------|
| First-Year Writing or A Htg 100 | 3.0 |
| Religion Cornerstone course | 2.0 |
| PDBio 120 (Biological Science) | 2.0 |
| Civilization 1 elective | 3.0 |
| Chem 105 | 4.0 |
| Quantitative Reasoning (if required) | 0–3.0 |
| Total Hours | 14–17.0 |

2nd Semester

| | |
|---------------------------------|-------------|
| First-Year Writing or A Htg 100 | 3.0 |
| Arts or Letters elective | 3.0 |
| MMBio 240 (Biological Science) | 3.0 |
| Chem 106 & 107 | 4.0 |
| 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

| | |
|--------------------------------------|-------------|
| Phscs 106 & 108 | 4.0 |
| Arts or Letters elective | 3.0 |
| Global & Cultural Awareness elective | 3.0 |
| PDBio 220 | 3.0 |
| Religion Cornerstone course | 2.0 |
| Total Hours | 15.0 |

JUNIOR YEAR

5th Semester

| | |
|--------------------------------|-------------|
| PDBio 305 or 362 and 363 | 4.0 |
| ExSc 302 | 1.0 |
| ExSc 320 | 3.0 |
| General elective | 3.0 |
| Languages of Learning elective | 3.0 |
| Religion elective | 2.0 |
| Total Hours | 16.0 |

6th Semester

| | |
|--------------------|-------------|
| ExSc 463 | 3.0 |
| ExSc 464 | 0.5 |
| Major elective | 4.0 |
| Religion elective | 2.0 |
| General electives | 5.0 |
| Total Hours | 14.5 |

SENIOR YEAR

7th Semester

| | |
|-----------------------------------|-------------|
| Adv. Written & Oral Communication | 3.0 |
| ExSc 362 | 3.0 |
| ExSc 387 | 3.0 |
| ExSc 390 | 4.0 |
| Religion elective | 2.0 |
| Total Hours | 15.0 |

8th Semester

| | |
|--------------------|-------------|
| ExSc 460 | 3.0 |
| Major elective | 3.0 |
| General electives | 9.0 |
| Total Hours | 15.0 |

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, motor learning, 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.

CAREER OPPORTUNITIES:

The exercise science degree provides excellent preparation for students interested in graduate work in exercise physiology (MS, 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 also 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's 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 speciality, and geographic location of employment or practice. Earnings for those with certain medical and dental specialties are potentially lucrative.

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.

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