

EXERCISE AND SPORT SCIENCE COMPREHENSIVE MAJOR: CLINICAL EXERCISE PHYSIOLOGY EMPHASIS (WITH AESP 3+2)

The Clinical Exercise Physiology Emphasis allows students to complete the BS in ESS and the MS in Applied Exercise Science and Performance (AESP) at Western in five years. Students in this emphasis must fulfill all the AESP application requirements by the time they complete 97 credits. Admissions requirements for the AESP program are listed below.

To remain qualified for the Clinical Exercise Physiology Emphasis, upon earning 65 credits by the end of the second year, the student must have:

- Maintained a 3.0 cumulative GPA and a 3.25 GPA within the major.
- Completed ESS 181 Foundations of Exercise and Sport Science, ESS 185 Lifetime Wellness, all 100 level major science courses, 21 credits of general education (not including AREA II: Natural Sciences), and the Biology Human Anatomy and Physiology sequence (BIOL 372 Human Anatomy and Physiology I (with laboratory)/BIOL 373 Human Anatomy and Physiology II (with laboratory)).
- Written, submitted and discussed a Letter of Intent with the AESP program Director and the student's advisor. The Letter of Intent should include preliminary research interests and career goals. This letter will be kept on file with the School of Graduate Studies in partial fulfillment of the application to the AESP program.

Upon earning 97 credits by the end of the third year, the student must have:

- Completed all undergraduate course requirements for the Clinical Exercise Physiology track (except for ESS 430 Topics in Clinical Exercise Physiology and ESS 412 Exercise Biochemistry, which will be taken in the fall and spring, respectively, of the fourth year). Please note: a student may elect to take ESS 498 Internship in Exercise and Sport Science during the summer before their fourth year. See DEGREE PLAN at <https://western.edu/ess> (<https://western.edu/ess/>).
- Requested, and the School of Graduate Studies must have received, two letters of recommendation. At least one letter must be from a Western faculty member. Recommendation letters will be kept on file with the School of Graduate Studies in partial fulfillment of the application to the AESP program.
- Submitted a current resume. The resume will be kept on file with the School of Graduate Studies in partial fulfillment of the application to the AESP program.

Upon satisfying all the requirements listed above, the School of Graduate Studies will consider the student a "AESP candidate with provisional acceptance."

Upon earning 121 credits by the end of the fourth year, the student must have:

- Completed ESS 430 Topics in Clinical Exercise Physiology and ESS 412 Exercise Biochemistry.

- Maintained a 3.0 cumulative GPA and a 3.25 GPA within the major.
- Completed 18 graduate level ESS credits, with at least a 3.0 GPA.

At this time, the School of Graduate Studies will consider the student a "AESP M.S. degree seeking student."

Program Requirements

A minimum of 81 credits is required for the BS. The following is required for the Comprehensive Program with Five-Year MS in Applied Exercise Science and Performance:

| Code | Title | Credits |
|---|--|-----------|
| ESS 181 | Foundations of Exercise and Sport Science | 3 |
| ESS 185 | Lifetime Wellness | 3 |
| ESS 298 | Fitness Instruction | 3 |
| ESS 330 | Exercise Physiology | 3 |
| ESS 331 | Exercise Physiology Lab | 1 |
| ESS 380 | Biomechanics | 3 |
| ESS 405 | Practicum in Exercise and Sport Science | 1 |
| ESS 410 | Assessment and Exercise Prescription | 3 |
| ESS 412 | Exercise Biochemistry | 3 |
| ESS 430 | Topics in Clinical Exercise Physiology | 3 |
| ESS 498 | Internship in Exercise and Sport Science | 3 |
| BIOL 150 | Biological Principles (with laboratory) (GT-SC1) | 4 |
| BIOL 372 | Human Anatomy and Physiology I (with laboratory) | 4 |
| BIOL 373 | Human Anatomy and Physiology II (with laboratory) | 4 |
| CHEM 111 | General Chemistry I (GT-SC2) | 3 |
| CHEM 112 | General Chemistry Laboratory I (GT-SC1) | 1 |
| CHEM 113 | General Chemistry II | 3 |
| CHEM 114 | General Chemistry Laboratory II | 1 |
| MATH 141 | Precalculus (GT-MA1) | 4 |
| MATH 213 | Probability and Statistics (GT-MA1) | 3 |
| PHYS 140 | Introductory Physics (with laboratory) (GT-SC1) | 4 |
| One of the following: | | 3 |
| BIOL 300 | Basic Nutrition | |
| ESS 360 | Nutrition for Wellness and Performance | |
| Year Four AESP Requirements (18 credits) | | |
| ESS 600 | Advanced Statistics | 3 |
| ESS 601 | Quantitative Research Methods | 3 |
| ESS 605 | Exercise and Sport Science Testing and Instrumentation-Lab | 3 |
| ESS 606 | Exercise and Sport Science Testing and Instrumentation-Field | 3 |
| ESS 640 | Environmental Exercise Physiology I | 3 |
| ESS XXX | ESS 600-level Elective | 3 |
| Total Credits | | 81 |

Upon successful completion of the prescribed courses listed above, University defined General Education, and elective requirements totaling 120 credits (with 40 at the 300-level or higher), students are eligible for their B.A. conferral. Students electing to complete the AESP program must follow the balance of their declared emphasis curriculum.

For a full description of the required Graduate coursework, please see the AESP program in the Western Graduate Catalog (<https://>

catalog.western.edu/graduate/programs/exercise-sport-science/
#programrequirementstext).

"C-" or better required for both ESS 181 Foundations of Exercise and Sport Science and ESS 185 Lifetime Wellness to receive credit toward ESS degree.

| Course | Title | Credits |
|-------------------|---|--------------|
| Year One | | |
| Fall | | |
| BIOL 150 | Biological Principles (with laboratory) (GT-SC1) ¹ | 4 |
| CHEM 111 | General Chemistry I (GT-SC2) | 3 |
| CHEM 112 | General Chemistry Laboratory I (GT-SC1) | 1 |
| ESS 181 | Foundations of Exercise and Sport Science | 3 |
| HWTR 100 | First Year Seminar | 1 |
| MATH 141 | Precalculus (GT-MA1) | 4 |
| Credits | | 16 |
| Spring | | |
| CHEM 113 | General Chemistry II | 3 |
| CHEM 114 | General Chemistry Laboratory II | 1 |
| ENG 102 | Writing and Rhetoric I (GT-CO1) | 3 |
| ESS 185 | Lifetime Wellness | 3 |
| Gen Ed | General Education course | 3 |
| PHYS 140 | Introductory Physics (with laboratory) (GT-SC1) | 4 |
| Credits | | 17 |
| Year Two | | |
| Fall | | |
| BIOL 372 | Human Anatomy and Physiology I (with laboratory) | 4 |
| ENG 103 | Writing and Rhetoric II (GT-CO2) | 3 |
| Elective | Elective course | 3 |
| Gen Ed | General Education | 6 |
| MATH 213 | Probability and Statistics (GT-MA1) | 3 |
| Credits | | 19 |
| Spring | | |
| Gen Ed | General Education | 9 |
| BIOL 373 | Human Anatomy and Physiology II (with laboratory) | 4 |
| ESS 298 | Fitness Instruction | 3 |
| Credits | | 16 |
| Year Three | | |
| Fall | | |
| Elective | Elective course | 3 |
| ESS 330 | Exercise Physiology | 3 |
| ESS 331 | Exercise Physiology Lab | 1 |
| ESS 360 | Nutrition for Wellness and Performance | 3 |
| ESS 405 | Practicum in Exercise and Sport Science | 1 |
| Gen Ed | General Education | 3 |
| Credits | | 14 |
| Spring | | |
| ESS 380 | Biomechanics | 3 |
| ESS 410 | Assessment and Exercise Prescription | 3 |
| ESS 498 | Internship in Exercise and Sport Science | 3-12 |
| Elective | | 6 |
| Credits | | 15-24 |
| Year Four | | |
| Fall | | |
| ESS 430 | Topics in Clinical Exercise Physiology | 3 |
| ESS 601 | Quantitative Research Methods | 3 |
| ESS 605 | Exercise and Sport Science Testing and Instrumentation-Lab | 3 |
| ESS 640 | Environmental Exercise Physiology I | 3 |
| Credits | | 12 |

| Spring | | |
|----------------------|--|----------------|
| ESS 412 | Exercise Biochemistry | 3 |
| ESS 600 | Advanced Statistics | 3 |
| ESS 606 | Exercise and Sport Science Testing and Instrumentation-Field | 3 |
| ESS 675 | Clinical Exercise Programming-Lab | 3 |
| Credits | | 12 |
| Total Credits | | 121-130 |

- ¹ BIOL 150 Biological Principles (with laboratory) (GT-SC1), BIOL 151 Diversity and Patterns of Life (with laboratory); CHEM 111 General Chemistry I (GT-SC2), CHEM 112 General Chemistry Laboratory I (GT-SC1), CHEM 113 General Chemistry II, CHEM 114 General Chemistry Laboratory II and PHYS 170 Principles of Physics I (GT-SC2), PHYS 171 Principles of Physics II (GT-SC2) satisfy the General Education AREA II: Natural Sciences requirement
- ² PSY 100 General Psychology (GT-SS3) is a requirement for PT and other professional health degrees.
- ³ PHYS 170 Principles of Physics I (GT-SC2)/PHYS 185 Laboratory Physics I (GT-SC1) and PHYS 171 Principles of Physics II (GT-SC2)/PHYS 186 Laboratory Physics II (GT-SC1) OR PHYS 190 General Physics I (GT-SC2)/PHYS 185 Laboratory Physics I (GT-SC1) and PHYS 191 General Physics II (GT-SC2)/PHYS 186 Laboratory Physics II (GT-SC1) may be taken in lieu of PHYS 140 Introductory Physics (with laboratory) (GT-SC1)