

EXERCISE SCIENCE (BS/MS)

Loyola also offers a five-year bachelor to master's program for undergraduate exercise science majors. Accelerate your progress and earn both degrees in just five years (earning the degrees separately takes at least six years).

Related Programs

Major

- Exercise Science (BS) (<https://catalog.luc.edu/undergraduate/health-sciences-public-health/exercise-science-bs/>)
- Public Health (BS) (<https://catalog.luc.edu/undergraduate/health-sciences-public-health/public-health-bs/>)

Master's

- Exercise Science (MS) (<https://catalog.luc.edu/graduate-professional/health-sciences/exercise-science-ms/>)

Curriculum

Code	Title	Hours
Exercise Science Prerequisites (Not including elective CORE classes)		
BIOL 101 & BIOL 111	General Biology I and General Biology I Lab	4
BIOL 102 & BIOL 112	General Biology II and General Biology II Lab	4
CHEM 160 & CHEM 161	Chemical Structure and Properties and Chemical Structure and Properties Laboratory	4
CHEM 180 & CHEM 181	Chemical Reactivity I and Chemical Reactivity I Lab	4
MATH 118	Precalculus II	3
STAT 103	Fundamentals of Statistics	3
PSYC 101	General Psychology	3
PSYC 273	Developmental Psychology	3
EXCM 155 & 155L	Anatomy and Physiology I and Anatomy and Physiology I Lab	4
EXCM 156 & 156L	Anatomy and Physiology II and Anatomy and Physiology II Lab	4
PHYS 111 & 111L	College Physics I Lec / Dis and College Physics Laboratory I	4
PHYS 112 & 112L	College Physics II Lec/Disc and College Physics Lab II	4
EXCM 101	Introduction to Exercise Physiology	3
EXCM 201	Physiology of Exercise	4
Exercise Science Major Course		
EXCM 210	Program Design in Exercise	2
EXCM 301	Advanced Physiology of Exercise	3
EXCM 342	Physical Growth, Development and Nutrition	3
EXCM 345	Therapeutic Exercise and Rehabilitation	3
EXCM 364	Intro to Clinical Exercise Testing and Prescription	3
EXCM 368	Advanced Clinical Testing and Prescriptions	3
EXCM 375	Special Populations in Exercise Science	2
EXCM 382	Clinical Research: Methods, Design and Ethics w/ Lab	3
EXCM 385	Kinesiology and Sports Biomechanics w/Lab	4

EXCM 387	Movement Anatomy in Exercise	3
EXCM 390	Psychology of Health and Exercise	3
EXCM 395	Clinical Internship and Patient Management	6

MS Exercise Science Major Courses

MS EXCM Core Courses

EXCM 401	Applied Physiology of Exercise	4
EXCM 450	Nutrition, Health and Performance	3
EXCM 475	Exercise Applications in Special Populations	3
EXCM 482	Research Methods and Evidence in Exercise Science	3

MS EXCM Track-Specific Curricula & Electives 18-19

See Below For Specific Information

Internship

EXCM 495	Advanced Exercise Science Internship	4
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Total Hours 124-125

Courses & Tracks

General Track

Code	Title	Hours
MS EXCM Core Courses		
EXCM 401	Applied Physiology of Exercise	4
EXCM 450	Nutrition, Health and Performance	3
EXCM 475	Exercise Applications in Special Populations	3
EXCM 482	Research Methods and Evidence in Exercise Science	3

MS EXCM General Track-Specific Curricula 18-19

Must complete a minimum of 18 credit hours (15 of which are EXCM courses) from below:

EXCM 424	Motor Learning and Performance
EXCM 435	Health Promotion and Wellness Theories and Frameworks
EXCM 444	Strength Training and Conditioning
EXCM 454	Applied Sports Science
EXCM 458	Cardiac and Pulmonary Disease and Rehabilitation
EXCM 468	Application of Advanced Clinical Exercise Testing & Prescription
EXCM 475	Exercise Applications in Special Populations
EXCM 478	EKG Interpretation
EXCM 480	Advanced Exercise Assessment and Programming
EXCM 485	Applied Biomechanics
FONU 507	Behavioral Change for Health Promotion
MHA 405	U.S. Health Systems Management
MPBH 413	Non-Communicable Disease Epidemiology
MPBH 431	Grant Writing

Internship

EXCM 495	Advanced Exercise Science Internship	4
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Total Hours 35-36

Human Performance Concentration Courses

Code	Title	Hours
MS EXCM Core Courses		
EXCM 401	Applied Physiology of Exercise	4
EXCM 450	Nutrition, Health and Performance	3
EXCM 475	Exercise Applications in Special Populations	3

EXCM 482	Research Methods and Evidence in Exercise Science	3
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MS EXCM Human Performance Track-Specific Curricula

EXCM 424	Motor Learning and Performance	3
EXCM 444	Strength Training and Conditioning	3
EXCM 480	Advanced Exercise Assessment and Programming	3
EXCM 485	Applied Biomechanics	4

Electives

Must complete a minimum of 6 credit hours (3 of which are EXCM courses) from below:

EXCM 435	Health Promotion and Wellness Theories and Frameworks	
EXCM 454	Applied Sports Science	
EXCM 458	Cardiac and Pulmonary Disease and Rehabilitation	
EXCM 468	Application of Advanced Clinical Exercise Testing & Prescription	
EXCM 478	EKG Interpretation	
FONU 507	Behavioral Change for Health Promotion	
MHA 405	U.S. Health Systems Management	
MPBH 413	Non-Communicable Disease Epidemiology	
MPBH 431	Grant Writing	

Internship

EXCM 495	Advanced Exercise Science Internship	4
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Total Hours **36**

Clinical Exercise Science Concentration Courses

Code	Title	Hours
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MS EXCM Core Courses

EXCM 401	Applied Physiology of Exercise	4
EXCM 450	Nutrition, Health and Performance	3
EXCM 475	Exercise Applications in Special Populations	3
EXCM 482	Research Methods and Evidence in Exercise Science	3

MS EXCM Clinical Exercise Track-Specific Curricula

EXCM 435	Health Promotion and Wellness Theories and Frameworks	3
EXCM 458	Cardiac and Pulmonary Disease and Rehabilitation	3
EXCM 468	Application of Advanced Clinical Exercise Testing & Prescription	4
EXCM 478	EKG Interpretation	3

Electives

Must complete a minimum of 6 credit hours (3 of which are EXCM courses) from below:

EXCM 424	Motor Learning and Performance	
EXCM 444	Strength Training and Conditioning	
EXCM 454	Applied Sports Science	
EXCM 480	Advanced Exercise Assessment and Programming	
EXCM 485	Applied Biomechanics	
FONU 507	Behavioral Change for Health Promotion	
MHA 405	U.S. Health Systems Management	
MPBH 413	Non-Communicable Disease Epidemiology	
MPBH 431	Grant Writing	

Internship

EXCM 495	Advanced Exercise Science Internship	4
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Total Hours **36**

Suggested Sequence of Courses

The below sequence of courses is meant to be used as a suggested path for completing coursework. An individual student's completion of requirements depends on course offerings in a given term as well as the start term for a major or graduate study. Students should consult their advisor for assistance with course selection.

Course	Title	Hours
Year 1		
Fall		
BIOL 101 & BIOL 111	General Biology I and General Biology I Lab	4
EXCM 155 & 155L	Anatomy and Physiology I and Anatomy and Physiology I Lab	4
CORE		3
CORE		3
UNIV 101	First Year Seminar	1
Hours		15

Spring

UCWR 110	Writing Responsibly	3
BIOL 102 & BIOL 112	General Biology II and General Biology II Lab	4
EXCM 156 & 156L	Anatomy and Physiology II and Anatomy and Physiology II Lab	4
CORE		3
CORE		3
Hours		17

Year 2**Fall**

PSYC 101	General Psychology	3
CHEM 160 & CHEM 161	Chemical Structure and Properties and Chemical Structure and Properties Laboratory	4
EXCM 101	Introduction to Exercise Physiology	3
CORE		3
CORE		3

Hours **16**

Spring

EXCM 201	Physiology of Exercise	4
CHEM 180 & CHEM 181	Chemical Reactivity I and Chemical Reactivity I Lab	4
STAT 103	Fundamentals of Statistics	3
CORE		3
CORE		3

Hours **17**

Year 3**Fall**

PSYC 273	Developmental Psychology	3
PHYS 111 & 111L	College Physics I Lec / Dis and College Physics Laboratory I	4
EXCM 364	Intro to Clinical Exercise Testing and Prescription	3

CORE		3
CORE		3
Hours		16
Spring		
PHYS 112 & 112L	College Physics II Lec/Disc and College Physics Lab II	4
EXCM 210	Program Design in Exercise	2
EXCM 301	Advanced Physiology of Exercise	3
EXCM 368	Advanced Clinical Testing and Prescriptions	3
CORE		3
Hours		15
Year 4		
Fall		
EXCM 345	Therapeutic Exercise and Rehabilitation	3
EXCM 385	Kinesiology and Sports Biomechanics w/ Lab	4
EXCM 390	Psychology of Health and Exercise	3
EXCM 435	Health Promotion and Wellness Theories and Frameworks	3
EXCM 450	Nutrition, Health and Performance	3
Hours		16
Spring		
EXCM 387	Movement Anatomy in Exercise	3
EXCM 395	Clinical Internship and Patient Management	6
EXCM 475	Exercise Applications in Special Populations	3
EXCM 482	Research Methods and Evidence in Exercise Science	3
Hours		15
Year 5		
Fall		
EXCM 401	Applied Physiology of Exercise	4
MS EXCM Track Specific Course or Elective		3-4
MS EXCM Track Specific Course or Elective		3-4
Hours		10-12
Spring		
MS EXCM Track Specific Course or Elective		3-4
MS EXCM Track Specific Course or Elective		3-4
MS EXCM Track Specific Course or Elective		3-4
Hours		9-12
Summer		
EXCM 495	Advanced Exercise Science Internship	4
Hours		4
Total Hours		150-155

- **Shared credits:** Graduate level credit hours taken during the undergraduate program and then applied towards graduate program requirements will be referred to as shared credits.

Admission Requirements

Accelerated Bachelor's/Master's programs are designed to enhance opportunities for advanced training for Loyola's undergraduates. Admission to these programs must be competitive and will depend upon a positive review of credentials by the program's admissions committee. Accordingly, the admission requirements for these programs may be higher than those required if the master's degree were pursued entirely after the receipt of a bachelor's degree. That is, programs may choose to have more stringent admissions requirements in addition to those minimal requirements below.

Requirements:

- Declared appropriate undergraduate major,
- By the time students begin taking graduate courses as an undergraduate, the student has completed approximately 90 credit hours, or the credit hours required in a program that is accredited by a specialty organization,¹
- A minimum cumulative GPA for coursework at Loyola that is at or above the program-specific requirements, a minimum major GPA that is at or above the program-specific requirements, and/or appropriate designated coursework for evaluation of student readiness in their discipline.²

Students not eligible for the Accelerated Bachelor's/Master's program (e.g., students who have not declared the appropriate undergraduate major) may apply to the master's program through the regular admissions process. Students enrolled in an Accelerated Bachelor's/Master's program who choose not to continue to the master's degree program upon completion of the bachelor's degree will face no consequences.³

Ideally, a student will apply for admission (or confirm interest in proceeding towards the graduate degree in opt-out programs) as they approach 90 credit hours. Programs are encouraged to begin advising students early in their major so that they are aware of the program and, if interested, can complete their bachelor's degree requirements in a way that facilitates completion of the program. Once admitted as an undergraduate, Program Directors should ensure that students are enrolled using the plan code associated with the Accelerated Bachelor's/Master's program. Using the plan code associated with the Accelerated Bachelor's/Master's program will ensure that students may be easily identified as they move through the program. Students will not officially matriculate into the master's degree program and be labeled as a graduate student by the university, with accompanying changes to tuition and Financial Aid (see below), until the undergraduate degree has been awarded. Once admitted to the graduate program, students must meet the academic standing requirements of their graduate program as they complete the program curriculum.

¹ Programs that have specialized accreditation will adhere to the admissions criteria provided by, or approved by, their specialized accreditors.

² The program will identify appropriate indicators of student readiness for graduate coursework (e.g., high-level performance in 300 level courses). Recognizing differences between how majors are designed, we do not specify a blanket requirement.

Guidelines for Accelerated Bachelor's/Master's Programs

Terms

- **Accelerated Bachelor's/Master's programs:** In this type of program, students share limited credits between their undergraduate and graduate degrees to facilitate completion of both degrees.

³ If students choose not to enroll in the Accelerated Bachelor's/Master's program, they still must complete all of the standard requirements associated with the undergraduate degree (e.g., a capstone).

For more information on Admissions requirements, visit here (<https://gpem.luc.edu/portal/admission/?tab=home>).

Curriculum

Level and progression of courses. The Accelerated Bachelor's/Master's programs are designed to be competitive and attractive to our most capable students. Students admitted to Accelerated Bachelor's/Master's programs should be capable of meeting graduate level learning outcomes. Following guidance from the Higher Learning Commission, only courses taken at the 400 level or higher (including 300/400 level courses taken at the 400 level) will count toward the graduate program.^{1,2}

Up to 50% of the total graduate level credit hours, required in the graduate program, may come from 300/400 level courses where the student is enrolled in the 400 level of the course. Further, at least 50% of the credit hours for the graduate program must come from courses that are designed for and restricted to graduate students who have been admitted to a graduate program at Loyola (e.g., enrolled in plan code that indicates the Accelerated Bachelor's/Master's program, typically ending with the letter "D").³

In general, graduate level coursework should not be taken prior to admission into the Accelerated Bachelor's/Master's program. Exceptions may be granted for professional programs where curriculum for the Accelerated Bachelor's/Master's program is designed to begin earlier. On the recommendation of the program's Graduate Director, students may take one of their graduate level courses before they are admitted to the Accelerated Bachelors/Master's program if they have advanced abilities in their discipline and course offerings warrant such an exception.⁴ Undergraduate degree requirements outside of the major are in no way impacted by admission to an Accelerated Bachelor's/Master's program.⁵

Shared credits. Undergraduate courses (i.e., courses offered at the 300 level or below) cannot be counted as shared credits nor count towards the master's degree. Up to 50% of the total graduate level credit hours, required in the graduate program, may be counted in meeting both the undergraduate and graduate degree requirements. Of those shared credits, students in an Accelerated Bachelor's/Master's program should begin their graduate program with the standard introductory course(s) for the program whenever possible. So that students may progress through the Accelerated Bachelor's/Master's program in a timely manner, undergraduate programs are encouraged to design their curriculum such that a student can complete some required graduate credit hours while completing the undergraduate degree. For instance, some of the graduate curriculum should also satisfy electives for the undergraduate major.

The program's Graduate Director will designate credit hours to be shared through the advising form and master's degree conferral review process. Shared credit hours will not be marked on the undergraduate record as having a special status in the undergraduate program. They will be included in the student's undergraduate earned hours and GPA. Graduate credit hours taken during the undergraduate program will not be included in the graduate GPA calculation.

¹ If students wish to transfer credits from another university to Loyola University Chicago, the program's Graduate director will review the relevant syllabus(es) to determine whether it meets the criteria for a 400 level course or higher.

² Programs with specialized accreditation requirements that allow programs to offer graduate curriculum to undergraduate students will conform to those specialized accreditation requirements.

³ In rare cases, the Graduate Director may authorize enrollment in a 400-level course for a highly qualified and highly motivated undergraduate, ensuring that the undergraduate's exceptional participation in the graduate class will not diminish in any way the experience of the graduate students regularly enrolled.

⁴ For example, if a particular course is only offered once every 2-3 years, and a student has demonstrated the necessary ability to be successful, the Graduate Director may allow a student to take a graduate level course to be shared prior to the student being formally admitted to the graduate program. See, also, footnote 3.

⁵ Students should not, for example, attempt to negotiate themselves out of a writing intensive requirement on the basis of admission to a graduate program.

Graduation

Degrees are awarded sequentially. All details of undergraduate commencement are handled in the ordinary way as for all students in the School/College/Institute. Once in the graduate program, students abide by the graduation deadlines set forth by the graduate program. Students in these programs must be continuously enrolled from undergraduate to graduate degree program unless given explicit permission by their program for a gap year or approved leave of absence. In offering the option of an Accelerated Bachelor's/Master's program, the university is making possible the acceleration of a student's graduate degree completion. It should be understood that students may not request deferral of their matriculation into the Master's degree program. If students would like to delay their graduate studies after earning the undergraduate degree, they may apply for admission to the traditional master's degree program. Any application of graduate credit earned while in the undergraduate program is subject to the policies of the graduate degree granting school.

Learning Outcomes

- Demonstrate proficiency in exercise and fitness screening, health appraisal and risk stratification, fitness assessment and evaluation, and exercise techniques. [Undergraduate]
- Communicate effectively and collaboratively with clients and the interprofessional team in exercise and fitness settings. [Undergraduate]
- Integrate values, ethics, and client preferences into exercise science practice [Undergraduate]
- Participate in activities to promote lifelong learning and professional development in exercise science. [Undergraduate]
- Demonstrate proficiency in critical thinking and evidence-based decision making in Exercise science. [Undergraduate]
- Synthesize knowledge from the arts, sciences and exercise sciences as the basis for assessment of physical capabilities and exercise prescriptions. [Undergraduate]
- Conduct comprehensive health and fitness assessments using theories and frameworks. [Graduate]
- Apply scientific principles and evidence-based recommendations into the prescription, implementation, and evaluation of exercise and fitness programs. [Graduate]
- Create lifestyle modification and health promotion plans for individuals and groups. [Graduate]

- Incorporate effective communication and motivational strategies to support clients or patients as they adopt, perform, and maintain a healthy lifestyle. [Graduate]
- Implement role behaviors consistent with the scope of practice of exercise sciences. [Graduate]
- Manage human, fiscal, and physical resources of health fitness facilities and programs. [Graduate]