PHYSICS/SECONDARY EDUCATION (BS/MED)

NOTE: This program is not presently accepting applications.

Become a science teacher. Earn an undergraduate degree in physics and a master's degree in secondary education

In Loyola's accelerated master's degree program for science teachers, you'll earn your undergraduate degree in physics and a graduate degree in teaching grades 9-12, plus an Illinois teaching license in secondary education. You'll qualify for a higher salary with a graduate degree, and be able to earn both degrees more quickly than if you enrolled in the two programs separately. Plus, there is a high need for science teachers across Illinois.

Related Programs

Major

- Physics (BS) (https://catalog.luc.edu/undergraduate/arts-sciences/physics/physics-bs/)
- Physics with Computer Science (BS) (https://catalog.luc.edu/undergraduate/arts-sciences/physics/physics-computer-science-bs/)

Minor

- Physics Minor (https://catalog.luc.edu/undergraduate/arts-sciences/physics/physics-minor/)

Curriculum

Students are enrolled in the College of Arts and Science (https://www.luc.edu/cas/) for the first four years, working to complete the requirements for a Bachelor of science degree in physics (https://catalog.luc.edu/undergraduate/arts-sciences/physics/physics-bs/) as well as prerequisites for Loyola's Graduate Teacher Preparation program. Students may begin the required sequence of classes for the MEd starting in their junior or senior year. They will also formally apply to the School of Education prior to their fifth year. The remainder of required education courses, including student teaching, are completed in the fifth year.

Please note that the MEd includes at least one summer session. Students work under the guidance of the Education Senior Academic Advisor to outline a specific course of study to fulfill all requirements. The timing of the education courses in the fourth and fifth years can vary depending on each student's particular needs. The number of courses taken each term can vary depending on the plan developed.

Code	Title	Hours
Physics BS Courses		
Required Courses		
Physics I		
PHYS 121 & PHYS 111L	College Physics I with Calculus Lecture/ Discussion and College Physics Laboratory I	4
Physics II		
PHYS 122 & PHYS 112L	College Physics II with Calculus Lecture/ Discussion and College Physics Lab II	4
Required Physics Courses		
PHYS 126F	Freshman Projects	1
PHYS 130	Introduction to Computational Physics	3
PHYS 235	Modern Physics	3
PHYS 235L	Modern Physics Laboratory	1
PHYS 301	Mathematical Methods in Physics	3
PHYS 303	Electronics I	3
PHYS 303L	Electronics Laboratory	1
PHYS 310	Optics	3
PHYS 310L	Optics Lab	1
PHYS 314	Theoretical Mechanics I	3
PHYS 328	Thermal Physical & Statistical Mechanics	3
PHYS 338	Advanced Physics Laboratory	2
PHYS 351	Electricity and Magnetism I	3
PHYS 361	Quantum Mechanics I	3
Ancillary Math		
MATH 161	Calculus I	4
MATH 162	Calculus II	4
MATH 263	Multivariable Calculus	4
MATH 264	Ordinary Differential Equations	3
Secondary Education MEd Requirements		
TLSC 401	Language, Learning & Development Theories in Practice	2
TLSC 403	Teaching for Social Justice and Equity	3
TLSC 404	Constructive Learning Environments for Diverse Students	3
TLSC 406	Educational Policy for Diverse Students	3
TLSC 407	Individualized Assessment and Instruction for Diverse Students	3
TLSC 443	Adolescent Literacy Instruction	3
TLSC 455	Secondary Content Mthds: Currclm, Instrctn & Assmt Secondary Content Areas	6
TLSC 460	Developing Rigorous and Relevant Instruction and Assessment	2
TLSC 461	Designing and Implementing Rigorous and Relevant Instruction	3
TLSC 470A	Student Teaching for Change	4
TLSC 470B	Student Teaching for Change	4
TLSC 480	Teaching for Change Field Seminar	1
Total Hours		**93**

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
First Year		
Fall		
PHYS 121	College Physics I with Calculus Lecture/ Discussion	3
PHYS 111L	College Physics Laboratory I	1
MATH 161	Calculus I	4

UCWR 110	Writing Responsibly	3
Core		3
	Hours	**14**
Spring		
PHYS 122	College Physics II with Calculus Lecture/ Discussion	3
PHYS 112L	College Physics Lab II	1
PHYS 126F	Freshman Projects	1
MATH 162	Calculus II	4
PHYS 130	Introduction to Computational Physics	3
Core		3
	Hours	**15**
Second Year		
Fall		
PHYS 235	Modern Physics	3
PHYS 235L	Modern Physics Laboratory	1
MATH 263	Multivariable Calculus	4
MATH 264	Ordinary Differential Equations [1]	3
Core		3
Core		3
	Hours	**17**
Spring		
PHYS 301	Mathematical Methods in Physics	3
PHYS 314	Theoretical Mechanics I	3
Core		3
Core		3
Core		3
	Hours	**15**
Third Year		
Fall		
PHYS 351	Electricity and Magnetism I	3
PHYS 328	Thermal Physical & Statistical Mechanics	3
Core		3
Core		3
Core		3
	Hours	**15**
Spring		
PHYS 361	Quantum Mechanics I	3
PHYS 310	Optics	3
PHYS 310L	Optics Lab	1
TLSC 401	Language, Learning & Development Theories in Practice [1]	2
TLSC 403	Teaching for Social Justice and Equity [1]	3
TLSC 404	Constructive Learning Environments for Diverse Students [1]	3
	Hours	**15**
Fourth Year		
Fall		
PHYS 303	Electronics I [2]	3
PHYS 303L	Electronics Laboratory [2]	1
Core		3
TLSC 406	Educational Policy for Diverse Students	3
TLSC 407	Individualized Assessment and Instruction for Diverse Students	3
TLSC 480	Teaching for Change Field Seminar	1
	Hours	**14**
Spring		
PHYS 338	Advanced Physics Laboratory	2
Core		3
Core		3
General Elective		3
General Elective		3
	Hours	**14**
Fifth Year		
Fall		
TLSC 443	Adolescent Literacy Instruction	3
TLSC 455	Secondary Content Mthds: Currclm, Instrctn & Assmt Secondary Content Areas	6
	Hours	**9**
Spring		
TLSC 460	Developing Rigorous and Relevant Instruction and Assessment	2
TLSC 461	Designing and Implementing Rigorous and Relevant Instruction	3
TLSC 470A	Student Teaching for Change	4
	Hours	**9**
Summer		
TLSC 470B	Student Teaching for Change	4
	Hours	**4**
	Total Hours	**141**

[1] If this TLSC course is not taken in this term, it can be taken in Year 5 Summer term.

Program Overview

5-Year Dual-Degree B.S./M.Ed. Program

Years 1-2	Years 3-4	Year 5 Summer 1	Fall	Spring	Summer 2
Content B.A./ B.S. major requirements in CAS	Content B.A./ B.S. major requirements in CAS	M.Ed. coursework begins late May following graduation from bachelor's program	Education coursework	Student Teaching	Student Teaching ends in June
Contact Dr. Lara Smetana for School of Education advising	Contact Dr. Lara Smetana for School of Education advising	(Number of Summer I courses depends on what courses were taken as an undergraduate)	School visites 1 day per week + on-campus courses 3 late afternoons and evenings per week	Part time student teaching starting in January, full time starting in March	
Join a Science Education Professional Learning Community (PLC) in School of Education as schedule allows	Education coursework as schedule allows (Sequences 1-3)	Optional - complete coursewoek for endorsements (e.g. bilingual, other content areas)			

	Formally apply to MEd program between August and March of year 4

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.
- 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.

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

- You'll have accrued the equivalent of one year of full-time teaching experience through all the hands-on, experiential learning opportunities in Chicago's classrooms and community organizations, so you will be ready to be at the head of your own classroom. With the foundational knowledge from your Loyola education, you will utilize theories, data, and research practices when making decisions in your classroom and for your students and when assessing the effectiveness of teaching on learning.