TEACHING PHYSICS 7-12 (BS)

Department Website (https://steinhardt.nyu.edu/programs/science-education/)

NYSED: 22756 **HEGIS:** 1902.01 **CIP:** 30.0101

Program Description

The BS in Teaching Science, Grades 7-12 (https://steinhardt.nyu.edu/degree/bs-teaching-science-grades-7-12-initial-certification/), offers students a choice of study in biology, chemistry, earth science, or physics.

Rigorous courses in the chosen science are combined with a pedagogical foundation that exposes students to methods for teaching science and the development and adaptation of curricula for middle and high school students in multicultural classrooms. Aspiring teachers learn how to address issues of social justice, bias, equity, gender, and ethnicity, and future thinking using strategies that lead to effective science teaching and learning.

The program of study culminates in two semesters of teaching opportunities in a public or independent school setting. Students graduating from the program are eligible for New York State teacher certification for grades 7–12, with an extension for grades 5-6.

Honors

- Honors Societies: Phi Delta Kappa, Kappa Delta Pi, Pi Lambda Theta
- Departmental Honors: Senior Honors Seminar for students with at least a 3.5 GPA, cumulative and major, culminating in an honors thesis based on faculty-supervised independent research

See departmental honors for additional honors information.

Admissions

New York University's Office of Undergraduate Admissions supports the application process for all undergraduate programs at NYU. For additional information about undergraduate admissions, including application requirements, see How to Apply (https://www.nyu.edu/admissions/undergraduate-admissions/how-to-apply.html).

Program Requirements

Course	Title	Credits
Liberal Arts Requirements		
Foreign Language		
Select 4 credits of foreign language		4
Expository Writing		
EXPOS-UA 1	Writing as Inquiry	4
ACE-UE 110	Advanced Writing and Research	4
Foundations of Contemporary Culture		
Texts and Ideas		4
Cultures and Contexts		4
Societies and the Social Sciences		4
Quantitative Reasoning		
MATH-UA 121	Calculus I	4
Additional Requirements		
SAHS-UE 1	New Student Seminar	0
Writing Proficiency Examination		
Content Core		
MATH-UA 122	Calculus II	4
MATH-UA 123	Calculus III	4
PHYS-UA 71	Introductory Experimental Physics I	2
PHYS-UA 72	Introductory Experimental Physics II	2
PHYS-UA 73	Intermediate Experimental Physics I	2
PHYS-UA 74	Intermediate Experimental Physics II	2
PHYS-UA 91	Physics I	3
PHYS-UA 93	Physics II	3
PHYS-UA 95	Physics III	3
PHYS-UA 106	Mathematical Physics	3
PHYS-UA 112	Advanced Experimental Physics	3
PHYS-UA 120	Dynamics	3
PHYS-UA 123	Quantum Mechanics I	3
PHYS-UA 140	Thermal & Statistical Physics	3
PHYS-UA xxxx	Three Physics Electives, by advisement (three 3-credit courses, for a total of 9 credits)	9
Common Pedagogical Core		
SOED-UE 1015	Educ as Soc Institution	4
or HSED-UE 610	Achievement Culture & The American Dream: Who Matters	
or TCHL-UE 41	American Dilemmas: Race, Inequality, and the Unfulfilled	
TCHL-UE 1	Inquiries Into Teaching & Learning I	4
TCHL-UE 5	Field Observ in Schools and Other Educ Settings	0
TCHL-UE 1030	Teaching Language and Literacy in the Disciplines	4
TCHL-UE 1999	Drug, Alcohol Ed/Child Abuse ID/School Violence/ DASA:	1
APSY-UE 20	Human Development I (must take 003 section)	2
APSY-UE 23	Human Development II: Early Adolescents and Adolescents (must take 001 section)	2
SPCED-UE 1005	Teach Stu With Disabili in General Ed Class Rm	4
Specialized Pedagogical Core		
SCIED-UE 1039	Communicating and Teaching Science to Everybody.	3
SCIED-GE 2092	Making Room for Brilliance: Creating Joyful Science Curricula	3
SCIED-UE 1911	Student Teaching Science Education:Middle School	3
SCIED-UE 1922	Student Teaching Science Education:High School	3
Unrestricted Electives		
Select 18 credits of unrestricted electives		18
Total Credits		**128**

Sample Plan of Study

Course	Title	Credits
1st Semester/Term		
SAHS-UE 1	New Student Seminar	0
EXPOS-UA 1 or EXPOS-UA 4	Writing as Inquiry or International Writing Workshop I	4
MATH-UA 121	Calculus I	4
PHYS-UA 71	Introductory Experimental Physics I	2
PHYS-UA 91	Physics I	3

HSED-UE 1005	Introduction to US Education (or any Steinhardt/CAS approved Societies and the Social Sciences course)	4
	Credits	**17**
2nd Semester/Term		
TCHL-UE 5	Field Observ in Schools and Other Educ Settings	0
ACE-UE 110 or EXPOS-UA 9	Advanced Writing and Research or International Writing Workshop II	4
MATH-UA 122	Calculus II	4
PHYS-UA 72	Introductory Experimental Physics II	2
PHYS-UA 93	Physics II	3
Texts and Ideas (or any Steinhardt approved Texts and Ideas course		4
	Credits	**17**
3rd Semester/Term		
MATH-UA 123	Calculus III	4
PHYS-UA 73	Intermediate Experimental Physics I	2
PHYS-UA 95	Physics III	3
TCHL-UE 1	Inquiries Into Teaching & Learning I	4
Foreign Language		4
	Credits	**17**
4th Semester/Term		
APSY-UE 20	Human Development I (must take 003 section)	2
APSY-UE 23	Human Development II: Early Adolescents and Adolescents (must take 001 section)	2
PHYS-UA 74	Intermediate Experimental Physics II	2
PHYS-UA 106	Mathematical Physics	3
PHYS-UA 120	Dynamics	3
HSED-UE 1033	Global Culture Wars (or CORE-UA 5XX, or any Steinhardt approved course)	4
	Credits	**16**
5th Semester/Term		
PHYS-UA 123	Quantum Mechanics I	3
PHYS-UA 112	Advanced Experimental Physics	3
PHYS-UA ---	Physics by advisement [1]	3
SCIED-UE 1039	Communicating and Teaching Science to Everybody.	3
TCHL-UE 1030	Teaching Language and Literacy in the Disciplines	4
	Credits	**16**
6th Semester/Term		
PHYS-UA 140	Thermal & Statistical Physics	3
PHYS-UA ---	Physics by advisement	3
SCIED-GE 2092	Making Room for Brilliance: Creating Joyful Science Curricula	3
SOED-UE 1015	Educ as Soc Institution	4
Unrestricted Electives		2
	Credits	**15**
7th Semester/Term		
PHYS-UA ---	Physics by advisement	3
SCIED-UE 1911	Student Teaching Science Education:Middle School	3
TCHL-UE 1999	Drug, Alcohol Ed/Child Abuse ID/School Violence/ DASA:	1
Unrestricted Electives		4
Unrestricted Electives		4
	Credits	**15**
8th Semester/Term		
SCIED-UE 1922	Student Teaching Science Education:High School	3
SPCED-UE 1005	Teach Stu With Disabili in General Ed Class Rm	4
Unrestricted Electives		4
Unrestricted Electives		4
	Credits	**15**
	Total Credits	**128**

[1] PHYS-UA 131 Electricity & Magnet I recommended.

Learning Outcomes

Upon successful completion of the program, graduates will:

1. Build relationships with students and families with the goal of fostering student learning, engagement and well-being.
2. Integrate theory/research with pedagogical and classroom practice.
3. Develop and implement discipline-based curricula, unit plans and lessons that are coherent, use culturally sustaining pedagogies, and foster experiential learning.
4. Create and apply classroom strategies that are explicit, innovative, appropriate for a specific context, and use technology to support student learning.
5. Develop a practice that is equitable, inclusive, coherent, thoughtful and acquire the skills of a professional educator.

Policies

Program Policies

Fieldwork Placement

Be advised that fieldwork placement facilities that provide training required for your program degree, and agencies that issue licenses for practice in your field of study, each may require you to undergo general and criminal background checks, the results of which the facility or agency must find acceptable before it will allow you to train at its facility or issue you a license. You should inform yourself of offenses or other facts that may prevent obtaining a license to practice in your field of study. NYU Steinhardt will not be responsible if you are unable to complete program requirements or cannot obtain a license to practice in your field because of the results of such background.

STEM OPT Benefits for International Students

If you're an international student, you may be able to work in the United States after graduation for an extended period of time. Most students studying on F-1 visas will be eligible for 12 months of Optional Practical Training (OPT) off-campus work authorization. F-1 students in this program may also be eligible for the STEM (Science, Technology, Engineering, or Mathematics) OPT extension, allowing you to extend your time in the United States to pursue degree-related work experience for a total of 36 months or 3 years. For more information on who can apply for this extension visit NYU's Office of Global Services: STEM OPT (http://www.nyu.edu/students/student-information-and-resources/student-visa-and-immigration/alumni/extend-your-opt/stem-opt.html).

Grading Policies

Students can review the Department of Teaching and Learning Academic Policies in our Undergraduate Advising Guide (https://sites.google.com/nyu.edu/tl-undergraduate-guide/home/).

Pass/Fail

Undergraduate students can only pass/fail Liberal Arts and Unrestricted Electives or CORE-UA courses not being used to fulfill a content area. Students are not permitted to pass/fail more than one course per semester and cannot pass/fail more than 16-20 credits total (depending on the program of study).

Minimum Grades

All students must maintain a minimum 2.0 GPA to maintain good academic standing. Students who fall below that mark for the semester GPA or overall GPA will be reviewed by the Committee on Student Progress.

Students must meet the following grade minimums in each program in order for classes to satisfy degree requirements:

Childhood Education/Childhood Special Education

- A minimum grade of B- in all Specialized Pedagogical Core Courses, and a minimum grade of C in Common Pedagogical Core Courses.
- A minimum grade of C in Liberal Arts Content Core Courses.

Early Childhood Education/Early Childhood Special Education

- A minimum grade of B- in all Specialized Pedagogical Core Courses, and a minimum grade of C in Common Pedagogical Core Courses.
- A minimum grade of C in Liberal Arts Content Core Courses.

Teaching English 7-12

- A minimum grade of B- in all Specialized Pedagogical Core Courses, and a minimum grade of C in Common Pedagogical Core Courses.
- A minimum grade of C in all English Content courses.

Teaching Mathematics 7-12

- A minimum grade of B- in all Specialized Pedagogical Core Courses and a minimum grade of C in Common Pedagogical Core Courses.
- A minimum grade of C in all Mathematics Content courses.

Teaching Science 7-12

- A minimum grade of B- in all Specialized Pedagogical Core & Common Pedagogical Core course requirements.
- A minimum grade of C in Specialization Core Courses (BIOL-UA, CHEM-UA, PHYS-UA, ENVST-UA, and MATH-UA).

Teaching Social Studies 7-12

- A minimum grade of B- in all Specialized Pedagogical Core & Common Pedagogical Core course requirements.
- A minimum grade of C in all History, ECON-UA 1 & Politics courses.

Teaching a World Language 7-12

- A minimum grade of B- in all Specialized Pedagogical Core Courses, and a minimum grade of C in Common Pedagogical Core Courses.
- A minimum grade of C in all target language courses.

Student Teaching Seminars

A minimum grade of B- in all student teaching seminar courses:

Course	Title	Credits
CHDED-UE 1901	Student Teaching in Childhood Education II	3
CHDED-UE 1902	Student Teaching in Childhood Education III	6
ECED-UE 1503	Student Teaching in Early Childhood Education I	2
ECED-UE 1904	Student Teaching in Early Childhood Education III	3
ENGED-UE 1911	Student Teaching English Education:Middle School	3
ENGED-UE 1922	Student Teaching English Education:High School	3
MTHED-UE 1911	Student Teaching in Mathematics Education: Middle and High School I	3
MTHED-UE 1922	Student Teaching in Mathematics Education: Middle and High School II	3
SCIED-UE 1911	Student Teaching Science Education:Middle School	3
SCIED-UE 1922	Student Teaching Science Education:High School	3
SOCED-UE 1911	Student Teaching in Social Studies I	4
SOCED-UE 1922	Student Teaching in Social Studies II	4
SPCED-UE 1504	Student Teaching in Childhood Special Education I	3
SPCED-UE 1901	Student Teaching in Childhood Special Education IV	3
SPCED-UE 1903	Student Teaching in Early Childhood Special Education II	3
SPCED-UE 1904	Student Teaching in Early Childhood Special Education IV	3
WLGED-UE 1911	Student Teaching World Language Education: Middle/High School I	4
WLGED-UE 1922	Student Teaching World Language Education: Middle/High School II	4

NYU Policies

University-wide policies can be found on the New York University Policy pages (https://bulletins.nyu.edu/nyu/policies/).

Steinhardt Academic Policies

Additional academic policies can be found the Steinhardt academic policies page (https://bulletins.nyu.edu/undergraduate/culture-education-human-development/academic-policies/).