

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, 7-12 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.

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		
<i>Core Courses</i>		
SAHS-UE 1	New Student Seminar	0
EXPOS-UA 1	Writing The Essay: or EXPOS-UA 4 International Writing Workshop I	4
HSED-UE 1005	Introduction to US Education (or any Steinhardt/ CAS approved Societies & Social Science course)	4
ACE-UE 110	Advanced College Essay: Educ & The Professions or EXPOS-UA 9 International Writing Workshop II	4
HSED-UE 1033	Global Culture Wars (or CORE-UA 5XX, or any Steinhardt approved course)	4
Texts and Ideas (or Steinhardt approved course)		4
Foreign Language ¹		4
<i>Mathematics Courses</i>		
MATH-UA 121	Calculus I	4
MATH-UA 122	Calculus II	4
MATH-UA 123	Calculus III	4
<i>Physics Courses</i>		
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
Physics Courses, by advisement (three 3-credit courses, for a total of 9 credits)		9

Major Requirements		
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
SCIED-UE 1039	Meth I:Teach of Science in Middle Schools	3
SCIED-UE 1040	Meth II:Teach of Science in High School	3
SOED-UE 1015	Educ as Soc Institution	4
SCIED-UE 1911	Student Teaching Science Education:Middle School	3
SCIED-UE 1922	Student Teaching Science Education:High School	3
SPCED-UE 1005	Teach Stu With Disabili in General Ed Class Rm	4
TCHL-UE 1	Inquiries Into Teaching & Learning I	4
TCHL-UE 5	Field Observ in Schools and Other Educ Settings	0
TCHL-UE 1030	Lang Acquis and Literacy Educ/Multi & Multi Cntxt	4
TCHL-UE 1999	Drug, Alcohol Ed/Child Abuse ID/School Violence/ DASA:	1

Electives		
Unrestricted Electives		18
Total Credits		128

1

Teaching & Learning foreign language waiver policy (<https://sites.google.com/nyu.edu/tl-undergraduate-guide/home/academic-policies-procedures/foreign-language-exemption-policy/>).

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 The Essay: 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 & Social Science 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 College Essay: Educ & The Professions 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 & 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 ¹		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 ²	3
SCIED-UE 1039	Meth I:Teach of Science in Middle Schools	3
TCHL-UE 1030	Lang Acquis and Literacy Educ/Multi & Multi Cntxt	4
	Credits	16
6th Semester/Term		
PHYS-UA 140	Thermal & Statistical Physics	3
PHYS-UA --	Physics by advisement	3
SCIED-UE 1040	Meth II:Teach of Science in High School	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

Teaching & Learning foreign language exemption policy (<https://sites.google.com/nyu.edu/tl-undergraduate-guide/home/academic-policies-procedures/foreign-language-exemption-policy/>).

2

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

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>).

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/>).