

# TEACHING CHEMISTRY 7-12 (BS)

Department Website (<http://steinhardt.nyu.edu/programs/science-education/>)

**NYSED:** 22755 **HEGIS:** 1905.01 **CIP:** 40.0501

## 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.

## 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
<b>Liberal Arts Requirements</b>		
<i>Foreign Language</i>		4
<i>Expository Writing</i>		
EXPOS-UA 1	Writing as Inquiry	4
ACE-UE 110	Advanced College Essay: Educ & The Professions	4
<i>Foundations of Contemporary Culture</i>		
Texts and Ideas		4
Cultures and Contexts		4
Societies and the Social Sciences		4
<i>Quantitative Reasoning</i>		
MATH-UA 121	Calculus I	4
MATH-UA 122	Calculus II	4
<i>Additional Requirements</i>		
SAHS-UE 1	New Student Seminar	0
Writing Proficiency Examination		

<i>Content Core</i>		
PHYS-UA 11	General Physics I	5
PHYS-UA 12	General Physics II	5
CHEM-UA 125	General Chemistry I & Laboratory	5
CHEM-UA 126	General Chemistry II & Laboratory	5
CHEM-UA 225	Organic Chemistry I & Laboratory	5
CHEM-UA 226	Organic Chemistry II & Laboratory	5
CHEM-UA 651	Quantum Mechanics & Spectroscopy	4
CHEM-UA 652	Thermodynamics & Kinetics	4
CHEM-UA 661	Physical Chemistry Laboratory	4
CHEM-UA xxxx	Chemistry Elective by advisement	4

### 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
SPCED-UE 1005	Teach Stu With Disabili in General Ed Class Rm	4
SOED-UE 1015	Educ as Soc Institution	4
	or HSED-UE 610	
	or TCHL-UE 41	
	American Dilemmas: Race, Inequality, and the Unfulfilled	
SCIED-UE 1039	Meth I:Teach of Science in Middle Schools	3
SCIED-UE 1040	Meth II:Teach of Science in High School	3
SCIED-UE 1911	Student Teaching Science Education:Middle School	3
SCIED-UE 1922	Student Teaching Science Education:High School	3
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

<b>Electives</b>	<b>17</b>
<b>Total Credits</b>	<b>128</b>

## Sample Plan of Study

Course	Title	Credits
<b>1st Semester/Term</b>		
SAHS-UE 1	New Student Seminar	0
EXPOS-UA 1 or EXPOS-UA 4	Writing as Inquiry or International Writing Workshop I	4
CHEM-UA 125	General Chemistry I & Laboratory	5
MATH-UA 121	Calculus I	4
HSED-UE 1005	Introduction to US Education (or any Steinhardt/CAS approved course)	4
<b>Credits</b>		<b>17</b>
<b>2nd Semester/Term</b>		
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
CHEM-UA 126	General Chemistry II & Laboratory	5
MATH-UA 122	Calculus II	4
HSED-UE 1033	Global Culture Wars (or CORE-UA 5XX, or any Steinhardt approved course)	4
<b>Credits</b>		<b>17</b>
<b>3rd Semester/Term</b>		
CHEM-UA 225	Organic Chemistry I & Laboratory	5
PHYS-UA 11	General Physics I	5

TCHL-UE 1	Inquiries Into Teaching & Learning I	4
Texts and Ideas or any Steinhardt/CAS approved course		4
<b>Credits</b>		<b>18</b>
<b>4th Semester/Term</b>		
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
CHEM-UA 226	Organic Chemistry II & Laboratory	5
PHYS-UA 12	General Physics II	5
Foreign Language		4
<b>Credits</b>		<b>18</b>
<b>5th Semester/Term</b>		
CHEM-UA 651	Quantum Mechanics & Spectroscopy	4
SCI-UE 1039	Meth I: Teach of Science in Middle Schools	3
TCHL-UE 1030	Lang Acquis and Literacy Educ/Multi & Multi Cntxt	4
Unrestricted Electives		5
<b>Credits</b>		<b>16</b>
<b>6th Semester/Term</b>		
CHEM-UA 652	Thermodynamics & Kinetics	4
CHEM-UA 661	Physical Chemistry Laboratory	4
SOED-UE 1015	Educ as Soc Institution	4
or HSED-UE 610	or Educ/American Dream: Historical Perspectives	
or TCHL-UE 41	or American Dilemmas: Race, Inequality, and the Unfulfilled	
SCI-UE 1040	Meth II: Teach of Science in High School	3
<b>Credits</b>		<b>15</b>
<b>7th Semester/Term</b>		
CHEM-UA ---	Chemistry course by advisement	4
SCI-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
<b>Credits</b>		<b>12</b>
<b>8th Semester/Term</b>		
SCI-UE 1922	Student Teaching Science Education: High School	3
SPCED-UE 1005	Teach Stu With Disabili in General Ed Class Rm	4
Unrestricted Electives		8
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>128</b>

## 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

#### Grading Policies

##### 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

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:

CHDED-UE 1901 and CHDED-UE 1902  
 ECED-UE 1503 and ECED-UE 1904  
 ENGED-UE 1911 and ENGED-UE 1922  
 MTHED-UE 1911 and MTHED-UE 1922  
 SCI-UE 1911 and SCI-UE 1922  
 SOCED-UE 1911 and SOCED-UE 1922  
 SPCED-UE 1504, SPCED-UE 1901, SPCED-UE 1903 and SPCED-UE 1904  
 WLGED-UE 1911 and WLGED-UE 1922

Students can review the Department of Teaching & Learning Academic Policies in our Undergraduate Advising Guide.

#### 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/>).