



Department of Chemistry and Biochemistry

ACS Certified B.A. in Chemistry: Chemical Education

This table shows a normal sequence of required courses as a suggestion for students.

Year 1

<u>Fall</u>		<u>Spring</u>	
MATH 122. Precalculus	4 cr.	MATH 151 Calculus I	4 cr.
CHEM 113.4 General Chem.	4 cr.	CHEM 114.4 General Chem.	4 cr.
CHEM 113.1 Gen. Chem. Lab.	1 cr.	CHEM 114.1 Gen. Chem. Lab.	1 cr.
ENGL 110 Eng. Composition	3 cr.	BIOL 105 Cell biology	4 cr.
SEYS 221 Develop and Learning	<u>3 cr.</u>	PLAS – Art/History/Eng	<u>3 cr.</u>
	15 cr.		16 cr.

Year 2

<u>Fall</u>		<u>Spring</u>	
MATH 152. Calculus II	4 cr.	PHYS 146 College Physics	4 cr.
PHYS 145. College Physics	4 cr.	CHEM 252.4 Organic Chem.	4 cr.
CHEM 251.4 Organic Chem.	4 cr.	CHEM 252.1 Org. Chem. Lab.	1 cr.
CHEM 251.1 Org. Chem. Lab.	1 cr.	PLAS – Art/History/Lang	3 cr.
SEYS 201 W Found. of Educ.	<u>3 cr.</u>	Seminar/PhysED/other PLAS	<u>3 cr.</u>
	16 cr.		15 cr.

Year 3

<u>Fall</u>		<u>Spring</u>	
SEYS 340 Lang., Lit., & Cult.	3 cr.	SEYS 350 Cognition, Tech	3 cr.
CHEM 211 Thermo.	3 cr.	CHEM 321.3W Res. in Chem. Ed.	3 cr.
CHEM 371 Biochemistry I	4 cr.	CHEM 341.3 Instrumental Meth.	3 cr.
CHEM 321.1W Res. in Chem. Ed.	1 cr.	CHEM 341.1 Inst. Lab	1 cr.
ECPSE 350 Foundations of Sp. Ed.	3 cr.	SEYS 362 (Chem.) Methods	3 cr.
Electives	<u>3 cr.</u>	Electives	<u>3 cr.</u>
17 cr.			16 cr.

Year 4

<u>Fall</u>		<u>Spring</u>	
SEYS 372.2 Student Teaching I	3 cr.	SEYS 372.4 Student Teaching II	3 cr.
SEYS 382 Curric. and Asses.	3 cr.	CHEM 395 W Senior thesis	3 cr.
CHEM 331.3 Inorganic Chem.	3 cr.	Electives	<u>3 cr.</u>
CHEM 331.2 Phys.Inorganic Lab	2 cr.		9 cr.
Electives	<u>6 cr.</u>		
	17 cr.		

**Queens College
Secondary Education & Youth Services (SEYS)**

Undergraduate Science Education Initial Certificate

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Undergraduate students must have completed at least 15-20 credits in a traditional science major (biology, chemistry, geology, physics) with a minimum average of 2.75 in order to declare their second major in secondary education. Qualified students must have a major form signed by the appropriate science department advisor and a similar form signed by an advisor in SEYS (PH 150). The forms should be submitted by the upper sophomore/lower junior year. Candidates must earn a minimum letter grade of B in 362 and student teaching.

Course Number	Title	Pre-requisites and Co-Requisites	Credits	Fieldwork Required
SEYS 201W (Spring or Fall)	Historical, Social and Philosophical Foundations of Education	Upper Sophomore, major declared	3	25 Hours Fieldwork
SEYS 221 (Spring or Fall)	Development and Learning in Middle Childhood & Adolescence	Upper Sophomore, major declared	3	25 Hours Fieldwork
ECPSE 350 (Spring or Fall)	Foundations of Special Education	Upper Sophomore, major declared	*3	15 Hours of Fieldwork
SEYS 340 (Spring or Fall)	Language, Literacy, and Culture In Education	Pre-requisite: SEYS 201W	3	25 Hours Fieldwork
SEYS 362 (Spring ONLY)	Methods in Teaching Science in Middle and High School	Pre-requisite: SEYS 201W, 221 Pre- or Co-requisite: SEYS 340	3	25 Hours Fieldwork
SEYS 350 (Fall ONLY)	Cognition, Technology and Instruction for Diverse Learners	Pre-requisite: 221	3	25 Hours Fieldwork
SEYS 372.2 (Fall ONLY)	Initial Clinical Experience (ICE)	Pre or Co-req.: SEYS 350 Pre-req.: SEYS 362 Co-req. SEYS 382**	3	180 + Hours in Student Teaching I M-Th
SEYS 382 (Fall Course)	Standards-Based Curriculum and Assessment in Teaching Science	Pre-req.: SEYS 362 Co-requisite: 372.2	3	No Fieldwork
SEYS 372.4 (Spring Course)	Student Teaching Science in Middle or High School	Pre-requisite: SEYS 362, 372.2, 382	3	Student Teaching II M-F
TOTAL NUMBER OF CREDITS			27	

All students are required to complete 100 hours of fieldwork prior to Student Teaching I the Initial Clinical Experience (ICE).

*Credits not applicable to the program's Total Number of Credits

**Submission of Content- Specialty Test (CST) official score report prior to the first student teaching placement, with overall score and sub-scores (candidates who do not pass must develop a remediation plan signed by advisor prior to student teaching).

****Submission of the Educating All Students (EAS) official score report prior to the first student teaching placement, with overall score and sub-scores (candidates who do not pass must develop a remediation plan signed by advisor prior to student teaching).