

In this video, we will be going over the different types of chemistry majors offered at the University of Illinois at Urbana-Champaign and their specific degree requirements.

## Chemistry Degree Programs

- **Chemistry Sciences & Letters (BSLAS)**
  - Secondary Education Minor (teaching high school chemistry)
- **Specialized Chemistry (BS) (ACS Certified)**
  - Environmental Chemistry Concentration
  - Secondary Education Minor (teaching high school chemistry)
- **Computer Science + Chemistry**



The Chemistry major is divided up into three major areas and two sub areas of study. The Chemistry Sciences & Letters degree is a Bachelor of Science in Liberal Arts and Sciences (BSLAS), and it is what most students in Chemistry major in. Students can also elect to complete a Chemistry Sciences & Letters degree with a Secondary Education Minor, which is the typical way to get your credentials to teach high school chemistry.

The Bachelor of Science in Specialized Chemistry is our American Chemical Society Certified degree. It also contains an Environmental Chemistry concentration option. A secondary education minor is possible but may extend the time needed to finish your degree.

The Computer Science + Chemistry major is covered in a separate video

## Bachelor of Science in Chemistry Sciences & Letters (S&L)

- Best choice for double majors or dual degrees
- Preferred chemistry major for pre-health students
  - Pre-health students can complete Specialized Chemistry, but Chemistry S&L is usually a better option
- Chemistry Sciences and Letters students can also pursue research positions or attend graduate school

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Chemistry Sciences and Letters is our most popular chemistry major. It allows the most flexibility to pursue other interests or other majors while still getting a solid background in chemistry. For this reason, it is the preferred chemistry major for pre-health students but is also a solid choice for students wanting to go into industry. Employers do not know the difference between Specialized Chemistry or Chemistry Sciences and Letters, and both are Bachelor of Science degrees. Chemistry Sciences and Letters students can pursue research positions or attend graduate school.

## Chemistry S&L Coursework

- Requires 30 credit hours of chemistry
  - 12 must be advanced credit hours (300 or 400 level courses)

Subject	Course Title	Course Number
Required Chemistry	General Chemistry I & II	CHEM 102-105
	Organic Chemistry I & lab	CHEM 232 and 233
Required Physics (algebra-based)	Mechanics & Heat	PHYS 101
	Electricity & Magnetism, and Modern Physics	PHYS 102
Required Math	Calculus I, II, and III	MATH 220/221, 231, & 241



The Chemistry Sciences and Letters major requires 30 credit hours of chemistry to complete the degree and 12 credit hours must be advanced 300 or 400 level courses. Typically, students will start with the General Chemistry course sequence of CHEM 102 through CHEM 105.

10 hours of algebra-based physics is required but not usually completed in the first year, and math is required through Calculus III.

## Chemistry S&L First Semester Schedule

Subject	Course	Credit Hours
Major Course: Chemistry (based on placement)	CHEM 101, or 102 + 103	3-4
Math Course (based on placement)	MATH 115, 220, 221, 231, or 241*	3-5
1 <sup>st</sup> Year Orientation Courses	LAS 101 or 122	2
	CHEM 150	
General Education or Elective course	Composition I; SBS, HUM, LA, or Cultural Studies; or course of interest	3-7
IDEAL Credit Hours		14-16



The typical first semester in Chemistry Sciences and Letters includes CHEM 102 & 103, which is General Chemistry and the accompanying lab, the math course you test into, RHET 105 (or other composition 1 course) and a general education course as well as LAS 101 and CHEM 150 first year experience courses. Your first-year schedule will vary depending on your placement scores, any AP or IB credit you may have, and your educational objectives that you will discuss with your advisor during new student registration.

## Specialized Chemistry

- Specialized Chemistry is ACS Certified
- Curriculum is less flexible
  - Harder to complete a second degree
- Requires higher level chemistry, math, & physics courses
  - Also has more required labs
- Good option for those wanting to pursue a PhD in Chemistry
  - Can be done for pre-health, but Chemistry S&L is preferred



The Specialized Chemistry major is certified by the American Chemical Society (ACS). Specialized Chemistry involves higher level chemistry courses and significantly more labs. It is a great option for those wanting to pursue a PhD in Chemistry.

Due to the rigor of the classes and the number of requirements, Specialized Chemistry majors may have more difficulty in completing pre-health prerequisites and obtaining a competitive GPA for admission to professional health schools

## Specialized Chemistry

- Requires 47 credit hours of chemistry
  - Minimum of 31 advanced credit hours (300 or 400 level courses)

Subject	Course Title	Course Number
Required Chemistry	Accelerated Chemistry I & II or General Chem I & II and 222 & 223	CHEM 202-205 CHEM 102-105 and 222 & 223
	Fundamental Organic Chemistry I & lab	CHEM 236 & 237
Required Physics (calculus-based)	Mechanics	PHYS 211
	Electricity & Magnetism	PHYS 212
	Quantum	PHYS 214
Required Math	Calculus I, II, and III	MATH 220/221, 231, & 241
	Differential Equations	MATH 285
	Matrix Theory or Linear Algebra	MATH 225, 257 or 415



Specialized Chemistry requires 47 credit hours of chemistry, 31 of which must be advanced hours.

Specialized Chemistry students take the more rigorous accelerated chemistry, CHEM 202 through CHEM 205. Depending on the student's placement scores and recommendations from their advisor, students can take CHEM 102- 105 with CHEM 222 and 223 in place of the accelerated sequence of CHEM 202- 205. Students in Specialized Chemistry who begin in CHEM 102 and 103 will not be behind in completing their degree requirements.

Specialized Chemistry involves more Math, including calculus 1, 2, and 3, as well as differential equations and a linear algebra or matrix theory course. Calculus-based physics is required and is typically started in the spring of your first year.

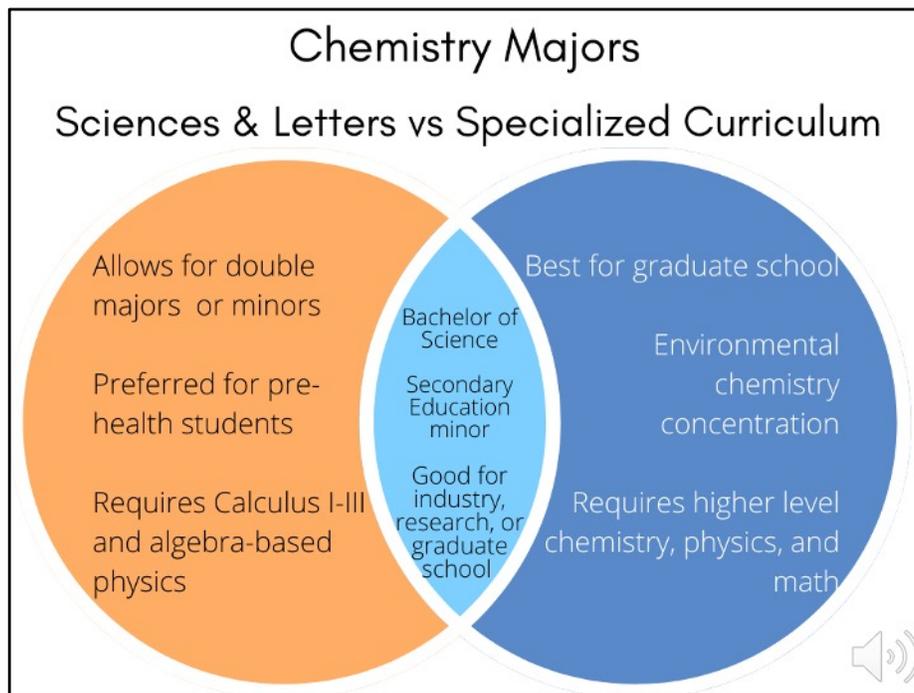
## Specialized Chemistry typical first semester schedule

Course Type	Course	Credit Hours
Major Course: Chemistry (based on placement)	CHEM 202 + 203 (or 101 and 102 + 103)	3-5
Math Course (based on placement)	MATH 115, 220, 221, 231, or 241	3-5
1 <sup>st</sup> Year Experience Courses	LAS 101 or 122	2
	CHEM 150	
General Ed or Elective course	Composition I; SBS, HUM, LA, or Cultural Studies; or course of interest	1-6
<b>Ideal total of credit hours:</b>		<b>14-16</b>



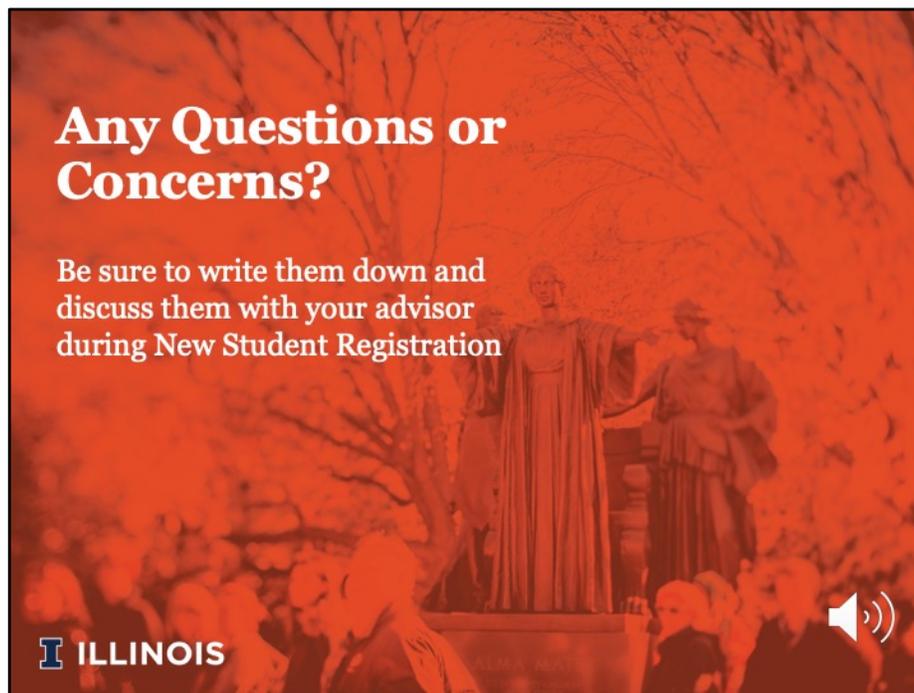
The rest of the schedule typically consists of the math course you test into, RHET 105 (or composition I), and a general education course, as well as LAS 101 and CHEM 150 first-year experience courses.

Your first-year schedule will vary depending on your placement scores, any AP or IB credit you may have, and your educational objectives that you will discuss with your advisor during New Student Registration.



Chemistry Sciences & Letters is flexible and allows students to pursue a double major or minor. It is also the preferred major for pre-health students and requires calculus 1, 2, and 3 and algebra-based physics. Specialized chemistry is the best option for students interested in attending graduate school to pursue a PhD and has more rigorous chemistry, physics, and math courses. It also has the option of a concentration in environmental chemistry.

Both chemistry degrees are Bachelor of Science degrees and have the option for a secondary education minor. Both are good choices for industry, research, or graduate school.



Be sure to speak with your advisor during new student registration about any questions you may have and to find out more about the differences between Chemistry Sciences and Letters and Specialized Chemistry to determine which is best for you.