

## Which Class is Right for Me?

The Department of Chemistry offers many different pathways that all lead to the successful completion of a BA or BS degree in chemistry. Students without AP or equivalent credit have the simplest decision making process: enroll in CHEM 121/123 in the Fall semester. Students entering with AP credit or other equivalent preparation have the most flexibility in course selection and they have three different options, which can be described below.

### **Option 1: Take none of your AP Chemistry credit**

*Fall: CHEM 121/123 - General Chemistry I and General Chemistry Lab I*

*Spring: CHEM 122/124 - General Chemistry II and General Chemistry Lab II*

This is the standard introductory chemistry sequence and the classes that **most students** will take. If you took AP Chemistry, but you do not feel confident in the level of your chemistry preparation from your AP or equivalent work, this is the best option for you. One advantage of this approach is that you will see many of the same topics which you covered in AP Chemistry again and will have an opportunity to reinforce your existing knowledge. This should also make this course somewhat easier for new matriculates. The disadvantage is that you can not use credit for both your AP work and CHEM 121 / 123.

### **Option 2: Take one semester of your AP Chemistry credit**

*Fall: CHEM 201/205 - Advanced Topics in General Chemistry and Advanced Topics in General Chemistry Lab*

*Spring: CHEM 360 - Inorganic Chemistry*

This pathway is recommended for students with AP or equivalent credit who are considering a major (BA or BS) in chemistry. CHEM 201/205 is a more advanced version of General Chemistry and it is designed for incoming students with AP or equivalent credit. The course assumes that you have a good background in introductory chemistry and it will focus on the more advanced topics for upper-level chemistry courses. CHEM 201/205 is one semester long, compared to CHEM 121/122/123/124, which is two semesters. This option allows you to take your AP credit for first semester general chemistry and replaces your second semester of general chemistry AP credit. CHEM 201/205 satisfies the prerequisites for any course requiring CHEM 121/122 /123 /124. Upon completing this course, students intending to major in chemistry are recommended to take CHEM 360 in the Spring.

### **Option 3: Take both semesters of your AP Chemistry credit**

*Fall: CHEM 211 or CHEM 319 - Organic Chemistry I*

*Spring: CHEM 212 or CHEM 320 - Organic Chemistry II*

These are the organic chemistry I and II options. Students intending to major in chemistry should enroll in CHEM 319/320, while other students should enroll in CHEM 211/212. Taking organic chemistry in the first year is only available to students who have AP or equivalent credit for General Chemistry. The advantage of taking the full year of Chemistry AP credit is that it facilitates students seeking to take additional upper level courses, double major or reduce their courseload during their junior/senior years. The disadvantage is the challenge presented by the organic curriculum for new matriculates. Students not intending to major in chemistry, but who have AP or equivalent credit, can also consider taking no chemistry course in the Fall semester and starting CHEM 211 in the Spring semester.

**Note about AP and equivalent credit:** Students with AP credit will receive credit for CHEM 111/112/113/114. These credits are the equivalent to CHEM 121/122/123/124 for any prerequisites, but they do not count towards the Group 3 distribution requirement.

**Note for pre-medical students:** Please consult with the Office of Academic Advising (OAA) for advice on which path is best for you, as some medical schools do not accept Chemistry AP credit.

## Chemistry Major Advisors

The Chemistry Department has one faculty advisor for every residential college so that each student can form a consistent bond within the Department while completing their degree. Contact your Major Advisor with any questions or concerns you may have – they're here to help!

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## Frequently Asked Questions

**What's the difference between Chemistry and Chemical Engineering?** While there is much overlap between the disciplines, the major differences between chemistry and chemical engineering have to do with originality and scale. Chemists are more likely to develop fundamentally new chemicals, materials, or techniques, while chemical engineers are more likely to apply known materials or ideas to effectively solve real-world problems.

**Is it better to get a B.S. rather than a B.A. in Chemistry?** Neither degree is necessarily "better" — it depends on your career path. Your specific experiences, coursework, and achievements during your time at Rice are more important for job or graduate school applications than the type of degree you earn. With that said, the B.S. degree is designed to provide the experiences necessary for a career in chemistry, including pursuing graduate school or laboratory research jobs in chemistry-related fields. On the other hand, the B.A. degree is designed for students interested in a broad range of careers that value scientific knowledge, rigorous analytical skills, and quantitative abilities, but who are not as interested in laboratory research. Health professions and high school teaching are two examples of careers for which the B.A. degree is good preparation. Because it has lower credit hour requirements, some students find the B.A. degree convenient as part of a double major. Please seek advice from an academic advisor to determine which degree is best suited for your career path.

**I want to earn degrees in both Chemistry and History (or any other major). Can I do it?** Yes. Although it is demanding, many students do complete the requirements for two majors in disparate fields. Note that Rice offers two options in this case: a "double major" or a "dual degree." The majority of such students complete a "double major," which is earned by completing the requirements for a B.A. in two different disciplines. A "dual degree" requires the completion of two different bachelor's degrees (i.e. B.A. and B.S.) in two different disciplines and at least 30 additional semester hours at Rice beyond the hours required for the first degree. More information may be found in the [General Announcements](#).

**I will complete all of the requirements for my major but how can I be sure I have my 60 hours outside the major?** All courses not specifically applied to your major requirements count as "outside" the major, even courses taken in the same discipline. For example, if you complete all the course requirements listed for a B.A. in Chemistry and take two extra CHEM courses, those courses count toward the additional 60 hours needed to graduate. Please review your Degree Works account with an academic advisor to audit your graduation requirements.

### **For Freshmen:**

**Should I take PHYS 101/102, PHYS 111/112, or PHYS 125/126?** All three sequences fulfill the physics requirement for the B.A. and B.S. in Chemistry. PHYS 101/102 is intended for students majoring in engineering or the physical sciences, PHYS 125/126 for bioscience and premedical students, and PHYS 111/112 for particularly well-motivated students with a strong interest in the physical sciences. You may refer to the Office of Academic Advising (OAA) for more information on course placement.

**Which Chemistry class should I take as a freshman?** Most freshmen will take a full-year course in general chemistry (CHEM 121/122/123/124). However, there are three options depending on your background. Students with AP/IB Chemistry or similar credit can choose to take CHEM 201/205 or can go directly to organic chemistry (CHEM 211 or 319) during their freshman year. See the section "Which Chemistry Class is Right for Me?" for more information.

**I have AP/IB Chemistry credit. Will this satisfy pre-health professions requirements?** This is a question that must be answered on a case-by-case basis. AP/IB credit will satisfy some pre-medical requirements for many, but not all, medical and other health professional schools. Students need to consult with the OAA or each school for their AP/IB policies.