

# CHEMISTRY MAJOR ADVISING GUIDE

This guide is intended to help chemistry majors and faculty members understand chemistry major requirements and advising expectations. It is not comprehensive but should address many of the frequently asked questions students and faculty advisors will want to know.

If students or faculty advisors have questions not addressed in this guide, they should email the Director of Undergraduate Studies, Dr. James Kindt, and the Program Coordinator, Emily Morran.

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# IDENTIFYING YOUR ADVISOR/ADVISEES

All faculty advisors should see a list of their advisees in their OPUS faculty center under Academic Advising/My Advisees (first blue hyperlink).

Students should refer back to the email they received from the Undergrad Program Coordinator, Emily Morran, after they declared their major. If they are unable to find that email, they can contact Emily to be reminded of their advisor assignment.

## COMMUNICATION & MEETING EXPECTATIONS

While the Department of Chemistry doesn't require advisors and students to meet every semester, best practice is for advisors and advisees to at least check in via email each semester. Faculty advisors should share their availability for meetings with their advisees prior to each semester's advising period and invite students to set up a meeting. And students, in turn, should let their advisor know if they'd like to meet or not.

While faculty advisors are here to support students, it is ultimately the responsibility of the student to ensure they are meeting the major requirements, to determine how they will arrange their courses, and understand what is expected of them to complete their degree.

**So, students:** Take some time to look over your degree requirements (GERs and Major) in Degree Tracker (see below) prior to registration each semester. Double-check prerequisites for the courses you're thinking of taking. Chart out a Plan A and Plan B (maybe even Plan C) for the upcoming semester. Then make a list of questions for your OUE advisor and your major advisor. If you're not sure about something, ask. If you need help, ask. Communication is key! Now you're ready to meet!

When you meet, before diving into the details of course planning, it is useful for the student to give an overview (or update) about their current academic and career plans and interests. It is not the chemistry faculty member's responsibility to know all the requirements for the various pre-professional tracks – Emory has excellent advising offices who specialize in these and OUE advisors can direct students to those offices - but having that context will make for a more informed conversation.

## USING DEGREE TRACKER (AKA DEGREE AUDITS)

Faculty and students should utilize [Degree Tracker](#) to guide advising and course planning. This important tool in OPUS will tell students and advisors what requirements have been met by which courses and what requirements are remaining.

Degree tracker is most useful for faculty or students to check on progress after students have declared a major and finished most of their core courses. Below are answers to some FAQs for using Degree Tracker.

***I'm a student. How do I create a degree tracker report?*** Follow the [steps found in this guide](#) from the Registrar's office.

***What do I do if a requirement isn't showing credit properly in Degree Tracker?***

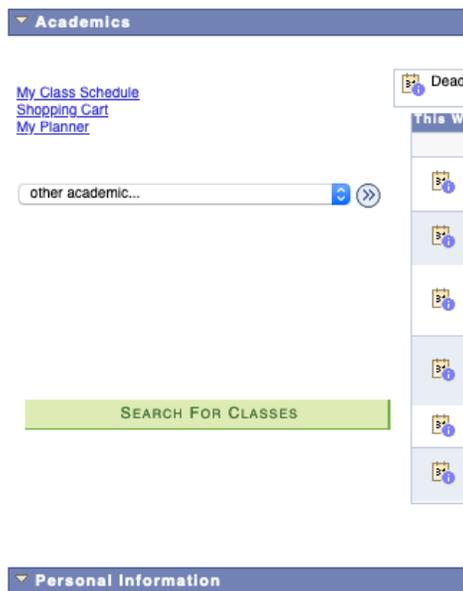
Students and/or faculty advisors can email the DUS, Dr. James Kindt, if a student's courses are not properly showing credit towards degree requirements in Degree Tracker. Dr. Kindt can review these issues and override them, if appropriate, in Degree Tracker. If something doesn't make sense (for example, Opus not recognizing the calculus requirement has been satisfied when the student took 200-level calculus as a first-year) then ask! The last thing we want is for a student to feel they need to take a class that is inappropriate for them because the algorithm Opus is using hasn't recognized that they have fulfilled an equivalent requirement.

***I'm a faculty member. How do I create a degree tracker report?*** To access Degree Tracker, click on "View Student Details" next to your advisee's name. Then from the "other academic..." pulldown menu (see screen shot), select "Academic Requirements" and click on the >> button; continue and click on "OK" on the next screen.

***I've got the report, now what?*** A lot of information will come up. The simplest way to proceed here is to click first on "Collapse All" a then on "Chemistry Major Requirements". Click on each required course or area to see whether the student has satisfied the major requirement or not, and you can focus on the unsatisfied requirements.

***How can I use Degree Tracker to do a final check on requirements before submitting/signing off on the Course Completion Review Form for graduating seniors?*** Zero in on the major requirements following the steps in the above FAQ. In most cases you should see "Satisfied" (green check mark) or "Satisfied with In-progress Courses" (yellow diamonds) for all the major requirements when looking at a graduate advisee's degree tracker report. For those "Satisfied with In-progress Courses", drill down into the detailed requirements and look for the courses listed with a yellow diamond; make sure those are listed on the form under "Courses currently taking to complete your major/minor".

***What about the "minimum grade needed" on the Course Completion Review Form?*** For "minimum grade needed", the question is what grades on courses in progress are needed for the student to maintain a major GPA above the minimum of 2.00. If the student's major GPA is greater than 2.31 and they have 3 or fewer major classes in progress, then even a D-minus in all three classes would not lower their GPA enough to go below the cutoff. If the student does have a major GPA below 2.31, some calculation is needed; if so, the advisor may consult the DUS for help in determining this minimum grade.



## OVERVIEW OF COURSES

All chemistry majors should be following the Chemistry Unbound curriculum and course requirements. Each section below gives guidance for different parts of each major within Chemistry Unbound. Students and advisors are recommended to use the notes below along with [Appendix 1](#) to help chart a path towards degree completion.

## Core Courses

### Overview

All majors (BA and BS) must complete 150, 202 (or 202z), 203 (or 203z), 204, 205 and all accompanying labs, plus 300L. Appendix 1 shows when students typically take each of these courses as well as when they are typically offered.

It is strongly recommended, although not required, for students to take the associated lab course in the same semester as the core lecture course. Students considering taking a lecture class but not the associated lab should consult their advisors first and ensure they know what their series of courses will look like going forward.

### Important notes about 204/204L through 300L

CHEM 204 and its lab are not prerequisites for 205 and its lab. A student may choose to take Chem 205/L during the same semester as 204/L, or even before.

A semester of calculus is a prerequisite for Chem 205/L; it is further recommended for students to complete at least 1 semester of physics before taking Chem 205/L.

204L and 205L are pre/co-requisites for 300L so they should both be completed before or during the semester 300L is taken.

In addition to the course work described above, majors are required to take part in a Chemistry Unbound program assessment in their final semester at Emory. Graduating students will be contacted via email early in the semester, and multiple times will be offered throughout the semester to satisfy this requirement. Please contact Dr. Doug Mulford for more information

## BA Major- Courses Beyond the Core

The only requirements beyond the core for BA majors are two additional chemistry electives at the 300 level or above. There are several options within this requirement.

- One of these may be a laboratory elective (but it does not have to be);

- 500-level graduate classes may count towards the elective requirement (unless the 500-level graduate class is already counting towards the Honors Program);
- A 400-level capstone class may count but BA students should not rely on getting into capstone classes; priority for these classes will be given to BS majors;
- Research for credit (399R, 499R, 495W) and directed reading/LA classes (392R, 497R) **do not** count as electives for the BA major.

## BS Major- Courses beyond the Core

Beyond the core, BS majors must complete an additional:

- Four (non-lab) electives at the 300 level;
- Two 300-level lab electives (one of which is writing-intensive); note 300L is not an elective;
- A 400-level capstone course in the final (or nearly final) semester.

As with BA majors, there are several options within these requirements that students should note. They include:

- 500-level graduate classes may count towards the non-lab elective requirements (unless the 500-level graduate class is already counting towards the Honors Program);
- 3+ credits of CHEM 499R (but not 399R) may be substituted for the non-writing intensive lab elective. These credits may be split over multiple semesters, if needed;
- 3 credits of CHEM 495RW (Honors Thesis) may be substituted for the writing-intensive lab elective;
- A capstone class should be taken in a student's senior year at a point when the student has finished, or very nearly finished, their BS requirements. For most students, this will be the semester in which they graduate. In rare cases, it may be the semester just before they graduate.
- Directed reading and LA classes (392R, 497R) **do not** count as electives for the BS major

## Additional Notes About Courses Beyond the Core

**300L:** CHEM 300L is a prerequisite for most 300-level elective courses; other electives may have some combination of other core courses as prerequisites. Therefore, BS majors, in particular, are strongly recommended to complete all core courses no later than the end of Junior year to create access to all electives.

**Electives from other departments:** At this time, 300-level courses in other program/major areas do not fulfill chemistry elective requirements unless they are cross-listed as a Chemistry course such as ENVS 328/CHEM 328. If a student identifies a class they would like to have considered as a chemistry elective, they should contact the Director of Undergraduate Studies, Dr. James Kindt, well in advance of the start of the class to discuss the possibility.

**Capstone Courses:** The capstone experience is intended to be completed in a student's senior year. However, juniors with an interest in a capstone course's content may contact the Director of Undergraduate Studies, Dr. James Kindt, for permission to take a capstone course as a junior. Before contacting the DUS, the student should note the following:

- The course must have seats remaining after all seniors who need the capstone to graduate have been enrolled;
- The student must obtain the approval of the instructor to enroll before they contact the DUS for a permission number. The student should include this approval in their email to the DUS;
- The student should briefly share an educational rationale for why they would like to take the course;
- The course will fulfill an elective requirement when taken in the student's junior year. The student will still need to complete a capstone course as a senior to fulfill the capstone requirement, and the course will need to be a different capstone course than the one taken as a junior. This is to ensure all B.S. majors have a true capstone experience- synthesizing knowledge from multiple advanced electives under a common theme- an experience that cannot be fully realized until all or nearly all electives have been completed.

## Non-Chemistry Course Requirements

In addition to the core courses and electives outlined above, BA and BS majors must complete:

- Biology 141
  - Satisfied either through AP/IB credit, or by taking BIOL 141 + BIOL 141L at Emory.
  - Students are advised to complete BIOL 141 before or along with CHEM 204.
- Physics 141 (or 151) and 142 (or 152).
  - The 151-152 track in physics is recommended for students with an interest in the intersection of physics, mathematics, and chemistry (i.e. physical chemistry).
  - A semester of physics is highly recommended before taking CHEM 205.

- One semester of calculus (Math 111 or the equivalent) for the B.A., and two semesters of calculus (Math 111 and 112 or the equivalent) for the B.S.
  - MATH 111 is a prerequisite for CHEM 205.
  - Students who have completed Math 112 or higher-level calculus classes do **not** have to take Math 111, and should contact the program coordinator or DUS to make sure this is reflected in Degree Tracker.

## SPECIAL COURSE OPPORTUNITIES

Students may want to take advantage of special course opportunities available through the Department. Below are tips about how these opportunities do or do not count towards degree requirements as well as the faculty point of contact to learn more.

### Teaching Assistants & Learning Assistants (Tracy McGill)

Being an undergraduate Teaching Assistant (TA) or Learning Assistant (LA) is a great opportunity for students to practice their science communication skills, develop teaching skills, build relationships with fellow students, and give back to the Department of Chemistry.

Undergraduate Teaching Assistants (TAs) work in laboratory courses. Learning Assistants (LAs) work in core lecture courses. Students may receive course credit (CHEM 392R or 497R) for serving as laboratory TAs or LAs, but these courses do not count towards the major requirements. Alternatively, students may have the option of being a TA or LA for pay. Students should discuss these options with the instructor for whom they'll be working.

Email Dr. McGill to learn more about being a Learning Assistant for a lecture course.

Teaching Assistants are typically arranged by individual faculty lab instructors. These instructors will provide information as opportunities become available, but students can also proactively email instructors to express their interest.

Finally, students can also visit the [OUE Academic Support website](#) to learn about other teaching and tutoring-related opportunities through OUE.

## Research for Credit (Vince Conticello)

Three undergraduate research for credit courses (399r, 499r, and 495RW) are offered for students working on chemistry research projects under the supervision of Emory faculty. Students must request a permission number no later than one week before Add/Drop/Swap ends in order to enroll in any research course. The link to the permission number request form can be found on the department's [Get Involved in Research website](#).

**CHEM 399R** is appropriate for a student's first experience with research or in a new area of research. CHEM 399R does not count towards the major requirements for BA or BS students.

**CHEM 499R** is for students who have some previous experience and are ready to produce results; a poster presentation on their research progress is required at the end of the semester. (Note that CHEM 399R is not a prereq for CHEM 499R; the previous experience may be obtained over the summer, through work-study, volunteering, etc.) 3 or more credits of CHEM 499R (may be spread among more than one semester) will fulfill the non-writing intensive laboratory requirement for BS majors. CHEM 499R does not fulfill any major requirements for BA majors.

CHEM 399R and 499R may be taken for 1-4 credits, with 1 credit hour corresponding to an average of 3 hours/week of research (including activities like group meetings, literature review, data analysis as well as time spent in the lab.)

Projects supervised by Emory faculty who are not members or associates of the Department of Chemistry must be approved by petition to the undergraduate committee before a student can register.

The petition and additional helpful guidance can be found on the Department's ["Get Involved in Research" website](#).

**CHEM 495RW** is the third research for credit course. It is discussed below under the Honors Program.

## Honors Program (Vince Conticello)

Participation in the College Honors program in Chemistry entails four responsibilities:

Maintaining a GPA 3.5 or above  
Passing (for full credit, with a letter grade) at least one graduate course (500-level or above) in chemistry, in addition to your other major requirements  
Performing research in chemistry and writing and publicly presenting a thesis during your senior year (enrollment in 499r and 495RW)  
Attending a meeting with the College Honors coordinators

If you are planning to join the Honors program, most likely you will have already selected a research mentor, a member of the Emory chemistry faculty who has agreed to supervise your thesis research. Your research mentor is the best source of advice on selecting a graduate course that will complement your research. You will also be inviting two additional faculty to serve on your honors thesis committee; this is usually done in the semester prior to when you will publicly present your thesis.

It is possible in some cases to complete an honors thesis in chemistry under supervision of non-chemistry faculty. Students who wish to work with faculty outside of chemistry will be required to submit a [petition](#) following the instructions found on the [undergraduate research website](#). Students who are approved to work with a thesis research mentor outside of chemistry must designate a “chemistry liaison” faculty member who will be part of your committee and will be available to advise you and your mentor about expectations for the honors program. *(Note: Students working with associated faculty, as [listed here](#), are exempt from the petition requirement.)*

The most common path for Honors students is to:

1. Sign up for the Honors program prior to the start of their 4th year
2. Enroll in 499R (permission number needed) to work on research and form their committee in the Fall
3. Enroll in 495RW (permission number needed) to finish their research and write and present their thesis in the Spring

Honors enrollment information, including instructions on how to sign up, will be provided to students via email via the undergraduate listserv. All chemistry majors who have completed the formal major declaration process will receive these emails.

## [Study Abroad \(Mike McCormick\)](#)

Faculty members in the Department of Chemistry oversee a summer study abroad program in Siena, Italy. The application process for this program is run through the [Study Abroad Office](#).

Students participating in this program will complete classes that count towards the major. The specifics of the classes offered and which major requirements they fulfill can vary year to year. Each fall, the department will host a Siena program information session. Students interested in this program are encouraged to attend.

## **Biomolecular Specialization (James Kindt)**

Students may complete a Biomolecular Specialization by making the following course selections **within** their chemistry major elective requirements:

- Chem 340, Biochemistry (to be taken after Chem 204 and 204L)
- Chem 333, Biophysical Chemistry (to be taken after Chem 204/L and Chem 205/L)
- At least one other chemistry course at the 300, 400, or 500 level that focuses on biomolecular chemistry, medicinal chemistry, biotechnology, or the chemistry of living systems. The list of approved courses will be determined, maintained, and publicized by the department's Undergraduate Committee. Current courses that can be counted towards this specialization include:
  - CHEM 343- Chemical Biology (formerly offered as CHEM 370-Chemical Biology)
  - CHEM 370- Biochem: Systems Chem. Approach
  - CHEM 470- Chemical Biology Capstone
  - CHEM 470- Medicinal Chemistry Capstone
  - CHEM 571- Biomolecular Chemistry Graduate Course
  - CHEM 572- Advanced Biophysical Chemistry Graduate Course
  - CHEM 573- Biotechnology in Chemistry Graduate Course
  - CHEM 574- Bioorganic Chemistry Graduate Course
  - CHEM 575R- Physical Biochemistry Graduate Course
  - CHEM 729R- Systems Chem: From Molecular Graduate Course

This specialization is open to students completing either the B.S. or B.A. degree in chemistry. B.A. students will need to take one course beyond the requirements of the B.A. major to fulfill the specialization. B.S. students will take at least three of their six electives focused on the biomolecular area to fulfill this specialization.

*Please note that fulfilling a specialization is not required to complete the chemistry major. A specialization does not appear on a student's transcript, and students are responsible for tracking their own progress towards completion of a specialization. In addition, students may not always be able to complete the specialization of their choice due to class rotation or insufficient staffing. Upon request, the Department of Chemistry will issue a letter to any student confirming that they have completed a specialization.*

# ADDITIONAL INFORMATION

**Double Majors:** Occasionally, a student may be interested in double-majoring. In most cases, this is not necessary for future career or professional school goals. The student's time may be better spent fully focusing on one major and being involved in other learning and service opportunities during the college years. A double-major is really only appropriate if the student genuinely enjoys learning about both areas of study, and is enthusiastic about completing the required course-work for both majors.

**College Catalog:** The [College Catalog](#) contains important information regarding General Education Requirements (GERs), academic policies, processes for requesting exceptions, and other important information. Students and faculty advisors are encouraged to utilize this resource.

**Grade Disputes:** The department maintains a policy for addressing grade dispute issues as noted here:

Emory Department of Chemistry Undergraduate Course Grade Dispute Policy  
*Approved by Undergraduate Committee, 9.16.20*

Typically grade disputes or re-grade requests are only appropriate and effective when students can demonstrate that an inappropriate grade was assigned as a result of conditions such as mechanical grading error, a math error (e.g., adding total points on an exam), assignment of a grade inconsistent with those assigned other students, or grading inconsistent with a predefined grading rubric.

First and foremost a student should meet with the faculty member who taught the course and should attempt to work out the dispute at that level. If and only if no satisfactory resolution can be achieved between the student and faculty should the following procedure be followed: The student then meets with the Director of Undergraduate Studies (DUS) who will try to resolve the situation between the student and faculty. In cases where the re-grade request concerns a course that the DUS is directly involved in teaching, the student should meet with the Department Chairperson.

If there is indication that the student does not feel the case has been resolved they will be asked to write a brief (1 page) summary of their grievance to be reviewed by the Undergraduate Committee in Chemistry (UCC). The UCC (with

any involved faculty recused) will communicate with the faculty member and discuss the issue with them in hopes that the situation can be resolved at this point within the department, and will make the final decision.

**Further Information:** Faculty advisors and/or students are always welcomed to email the DUS and Program Coordinator if they have circumstances that are not addressed in this guide.

**Director of Undergraduate Studies**

**James Kindt**

[jkindt@emory.edu](mailto:jkindt@emory.edu)

**Undergraduate Program Coordinator**

**Emily Morran**

[emily.morran@emory.edu](mailto:emily.morran@emory.edu)

## APPENDIX 1

Below you'll find more details regarding the typical course trajectory for Chemistry BS, BA, and Z-track students. You'll also find a sampling of the 300-level electives that are offered to advanced students.

## CHEMISTRY BS REQUIREMENTS

Course	Typically Offered	Usually Taken	Pre-Requisites (need to be completed before)	Co-Requisites (need to be completed before or at the same time)	Notes
CHEM 150	F/Su	Fall, year 1	None	CHEM 150L	Very strongly recommended to take Chem 150L along with Chem 150 (note if you take Chem 150 then you cannot use AP credit for 150L)
CHEM 150L	F/Su	Fall, year 1	None	CHEM 150	
CHEM 202	Sp/Su	Spring, year 1	CHEM 150		Recommended to take Chem 202L along with Chem 202
CHEM 202L	Sp/Su	Spring, year 1	CHEM 150L	CHEM 202	
CHEM 203	F/Su	Fall, year 2	CHEM 202		Recommended to take Chem 203L along with Chem 203.
CHEM 203L	F/Su	Fall, year 2	CHEM 202L	CHEM 203	
CHEM 204	Sp/Su	Spring, year 2	CHEM 203		Recommended to take Chem 204L along with Chem 204.
CHEM 204L	Sp/Su	Spring, year 2	CHEM 203L	CHEM 204	
CHEM 205	F/Sp	Year 2 or 3	CHEM 203 and MATH 111		Strongly recommended to take Chem 205L along with Chem 205. Also recommended to complete at least 1 semester of physics prior to taking CHEM 205.
CHEM 205L	F/Sp	Year 2 or 3	CHEM 203L and MATH 111	CHEM 205	
CHEM 300L	F/Sp	Year 3		CHEM 204L and 205L	Will need to take 204L and 205L with or before 300L
(1) 300-level non-lab elective	F/Sp	Years 3+	CHEM 204 or 205; Ck. Course catalog for any other pre-requisites for the course you're considering.		500-level grad courses can be counted as electives unless the course is fulfilling the Honors requirement. Capstone classes, 499R, and 399R can NOT be counted as electives.
(2) 300-level non-lab elective	F/Sp	Years 3+	CHEM 204 or 205; Ck. Course catalog for any other pre-requisites for the course you're considering.		500-level grad courses can be counted as electives unless the course is fulfilling the Honors requirement. Capstone classes, 499R, and 399R can NOT be counted as electives.
(3) 300-level non-lab elective	F/Sp	Years 3+	CHEM 204 or 205; Ck. Course catalog for any other pre-requisites for the course you're considering.		500-level grad courses can be counted as electives unless the course is fulfilling the Honors requirement. Capstone classes, 499R, and 399R can NOT be counted as electives.
(4) 300-level non-lab elective	F/Sp	Years 3+	CHEM 204 or 205; Ck. Course catalog for any other pre-requisites for the course you're considering.		500-level grad courses can be counted as electives unless the course is fulfilling the Honors requirement. Capstone classes, 499R, and 399R can NOT be counted as electives.
One 300-level lab	F/Sp	Years 3+	300L		3 credits of 499r can be counted to meet this requirement.
One 300-level lab w/ writing	F/Sp	Years 3+	300L		3 credits of 495RW (Honors thesis semester) can be counted to meet this requirement.
400-level capstone	1 in F, 2 or more in Sp	Year 4			Priority will be given to BS majors who have completed all other requirements or are completing them concurrently.
<b>Non-Chem Requirements</b>					
PHYS 141 or 151	F, Su	Years 1 or 2	*Refer to College Catalog for current requisites		
PHYS 142 or 152	Sp, Su	Years 1 or 2	*Refer to College Catalog for current requisites		
MATH 111	F/Sp/Su	Years 1 or 2	*Refer to College Catalog for current requisites		
MATH 112	F/Sp/Su	Years 1 or 2	*Refer to College Catalog for current requisites		
BIOL 141	F/Su	Years 1 or 2	*Refer to College Catalog for current requisites		

If student's AP credit covers MATH 112, or have credit for a 200-level calculus, they should contact the DUS for a waiver for MATH 111 or Math 112.

## CHEMISTRY BA REQUIREMENTS

Course	Offered	Usually Taken	Pre-Requisites (need to be completed before)	Co-Requisites (need to be completed before or at the same time)	Notes
CHEM 150	F/Su	Fall, year 1	None	CHEM 150L	Very strongly recommended to take Chem 150L along with Chem 150 (note if you take Chem 150 then cannot use AP credit for 150L)
CHEM 150L	F/Su	Fall, year 1	None	CHEM 150	
CHEM 202	Sp/Su	Spring, year 1	CHEM 150		Recommended to take Chem 202L along with Chem 202
CHEM 202L	Sp/Su	Spring, year 1	CHEM 150L	CHEM 202	
CHEM 203	F/Su	Fall, year 2	CHEM 202		Recommended to take Chem 203L along with Chem203.
CHEM 203L	F/Su	Fall, year 2	CHEM 202L	CHEM 203	
CHEM 204	Sp/Su	Spring, year 2	CHEM 203		Recommended to take Chem 204L along with Chem 204.
CHEM 204L	Sp/Su	Spring, year 2	CHEM 203L	CHEM 204	
CHEM 205	F/Sp	Year 2 or 3	CHEM 203 and MATH 111		Strongly recommended to take Chem 205L along with Chem 205.
CHEM 205L	F/Sp	Year 2 or 3	CHEM 203L and MATH 111	CHEM 205	
CHEM 300L	F/Sp	Year 3		CHEM 204L and 205L	Will need to take 204L and 205L with or before 300L
(1) 300-level elective	F/Sp/Su	Years 3+	CHEM 204 or 205; Ck. Course catalog for any other pre-requisites for the course you're considering.		One of these may be a laboratory elective (but it does not have to be); 500-level graduate classes may count towards the elective requirement (unless the 500-level graduate class is already counting towards the Honors Program); A 400-level capstone class may count but BA students should not rely on getting into capstone classes; priority for these classes will be given to BS majors; Research for credit (399R, 499R, 495W) and directed reading/LA classes (392R, 497R) do not count as electives for the BA major.
(2) 300-level elective	F/Sp/Su	Years 3+	CHEM 204 or 205; Ck. Course catalog for any other pre-requisites for the course you're considering.		Same as above.
<b>Non-Chem Requirements</b>					
PHYS 141 or 151	F	Years 1 or 2	*Refer to College Catalog for current requisites		
PHYS 142 or 152	Sp	Years 1 or 2	*Refer to College Catalog for current requisites		
MATH 111	F/Sp/Su	Years 1 or 2	*Refer to College Catalog for current requisites		
BIOL 141	F/Su	Years 1 or 2	*Refer to College Catalog for current requisites		
					If student's AP credit covers MATH 112, or have credit for a 200-level calculus, they should contact the DUS for a waiver for MATH 111.

## CHEMISTRY Z-TRACK REQUIREMENTS

Course	Offered	Usually Taken	Pre-Requisites (need to be completed before)	Co-Requisites (need to be completed before or at the same time)	Notes
CHEM 202z	F	Fall, year 1	AP credit	Chem 202zL	
CHEM 202zL	F	Fall, year 1	AP credit	CHEM 202z	
CHEM 203z	Sp	Spring, year 1	CHEM 202z	Chem 203zL	
CHEM 203zL	Sp	Spring, year 1	CHEM 202zL	CHEM 203z	
CHEM 204	F/Sp/Su	Fall, year 2	CHEM 203z		Recommended to take Chem 204L along with Chem204
CHEM 204L	F/Sp/Su	Fall, year 2	CHEM 203zL	CHEM 204	
CHEM 205	F/Sp	Year 2 or 3	CHEM 203z and MATH 111		Strongly recommended to take Chem 205L along with Chem 205
CHEM 205L	F/Sp	Year 2 or 3	CHEM 203zL and MATH 111	CHEM 205	
CHEM 300L	F/Sp	Year 2 or 3		CHEM 204L and 205L	Will need to take 204L and 205L with or before 300L
*From here, follow the remaining requirements on the BS or BA tab.					

### CHEMISTRY 300-LEVEL ELECTIVE EXAMPLES

Course Number	Course Name	Instructor for next or recent offering	Last Offered	Next Offered*	Pre-Requisites	Notes
322	Adv. Org. Chem	Weinschenk	Spring, 2022	Spring 2023	Chem 203 and 203L	
327	Organometallic Chem	Davies/Soria	Fall, 2021	Spring, 2023	Chem 203 and 203L	
333	Biophysical Chem	Dyer	Fall, 2021	Fall, 2022	Chem 204, 204L, 205, 205L	
340	Biochemistry	Salaita/Raj	Spring, 2022	Fall, 2022	Chem 204, 204L, Biol 141	
343	Chemical Biology	Jen Heemstra	Spring, 2020	Fall, 2022	Chem 204, 204L, Biol 141	
350	Inorganic	Hill	Fall, 2021`	Fall, 2022	Chem 205, 205L	
370- Quantum Mechanics	Quantum Mechanics	Liu	Spring, 2022	Spring, 2023	Chem 205, 205L	Course number may change if special topic becomes permanent course
370- Biochem: Systems Chem	Biochem: Systems Chem Approach	Lynn	Spring, 2021		Chem 204, 204L, Biol 141	Course number may change if special topic becomes permanent course
335LW	Quantum Chem Lab	Evangelista	Fall, 2021	Fall, 2022	Chem 205, 205L	
371LW- Exp. PChem	Experimental Phys. Chem	Brathwaite	Spring, 2021	Spring, 2023	Chem 205, 205L	Course number may change if special lab topic becomes permanent lab course
371LW- Catalysis in Org.Chem.Reaction	Catalysis in Org.Chem.Reaction	Soria	Spring, 2022	Spring, 2023	Chem 203 and 203L	Course number may change if special lab topic becomes permanent lab course
371L - Chemistry of Color	Chemistry of Color	Mulford	Spring, 2022	Spring, 2023	Chem 205, 205L	Course number may change if special lab topic becomes permanent lab course
				<b>*Please note that these are based on tentative plans as of 1/2022 and are subject to change; consult the Course Atlas and Opus for latest, official information.</b>		