Department of Chemistry and Biochemistry
Departmental Scholars Program

Program Overview

The Departmental Scholars is designed for exceptionally promising undergraduate students in the Chemistry and Biochemistry major. It allows undergraduate students to earn their Bachelor of Science and Master of Science degrees simultaneously after completing one additional year of graduate level coursework and research. Only students in the Department of Chemistry and Biochemistry major will be considered for eligibility into the program. Departmental Scholars maintain undergraduate status even though they are taking graduate level courses.

To qualify for the Departmental Scholars Program, you *must* be conducting research for a faculty member in the department.

Application

Complete applications (including letters of recommendation) must be received by December 15th of the academic year you are planning to graduate. For example, if you plan to graduate with your bachelor's degree in Spring 2024, your application must be received by December 15, 2023.

Your application should include the following:

- Nomination form
- Statement of purpose (1-2 pages long, PDF format)
- Research Abstract (1-2 pages long, PDF format)
- Unofficial transcript (the PDF version of your Degree Audit Report and/or an unofficial transcript downloaded from MyUCLA)
- Two letters of recommendation (these can be submitted directly by the faculty member to the Student Affairs Office)
    - One letter from your faculty advisor
    - One letter from a tenure-track faculty member

Please submit your application materials to the Student Affairs Office (ugrad@chem.ucla.edu). Advisors are located in the Student Affairs Office, Young Hall 4009. Applications will be reviewed by area advisors. Once your application has been approved by the university, an email notification will be sent to you and your faculty mentor.

Eligibility

- 3.5 cumulative GPA
- 3.5 major GPA, AND 3.5 upper division major GPA (you can check this on your Degree Audit Report under the "Major Upper Division Courses GPA Requirement" heading)*
- Completion of 24 courses (96 units) at UCLA or a similar institution. If any of these courses are from another institution, a copy of the transcript from the other institution must also be submitted in your application.
- Completion of preparation for the major
- Research with a Chemistry/Biochemistry faculty member

***Please note:** if you are double majoring, your GPA for each major must meet these requirements. However, please reach out to the Graduate Office to discuss your options if you do not meet the requirements for your non-Chemistry department major.

Chemistry

Please schedule a meeting with Angel Perez in College Honors (A-311 Murphy Hall) to file a petition to exceed maximum units.

Course Requirements:

At least nine quarter courses, for a total of at least 36 units, are required. Of these nine courses, at least five courses, for a total of at least 20 units, must be graduate 200-level lecture courses; the remainder can be 200-level or 500-level courses, such as 598. *No undergraduate (100-level) courses may count toward master's degree requirements.*

The 20 core units / 5 courses must be taken for a *letter* grade, while the remaining 16 units / 4 courses may be taken S/U or letter grade. Courses may not be applied twice (i.e. if the course is required for your BS degree it may *not* be used for the MS coursework). Please refer to the specialization core class breakdown for specific 200-level courses that you should enroll in.

Substitutions for the five core 200-level courses may be made with consent of the faculty area adviser; these substitutions can only be for other 200-level courses. Only 8 500-level (research) units may be used towards degree requirements.

Area of Advisement	Name	Email
Biophysics	Professor Benjamin Schwartz	schwartz@chem.ucla.edu
Inorganic	Professor Chong Liu	pld@chem.ucla.edu
Organic	Professor Patrick Harran and Abigail Doyle	harran@chem.ucla.edu agdoyle@chem.ucla.edu
Physical	Professor Benjamin Schwartz	schwartz@chem.ucla.edu
Materials	Professor Sarah Tolbert	tolbert@chem.ucla.edu
Analytical/Instrumentation	Professor Abby Kavner	akavner@g.ucla.edu
Theory and Computation	Professor Anastassia Alexandrova	ana@chem.ucla.edu
Chemical Biology	Professor Ellen Sletten	sletten@chem.ucla.edu
BMSB (Biochemistry)	Professor Roy Wollman	rwollman@chem.ucla.edu

Forms to submit prior to the quarter of completion:

Nomination of Master's Committee Form

The thesis committee must be appointed at the beginning of the spring quarter. Your faculty advisor will serve as your committee chair, and you'll also need to select a minimum of two additional faculty members. It is important that you review the committee requirements and regulations (detailed on the form) to ensure that your committee meets all of the requirements set by the Division of Graduate Education (DGE). Please submit this form to the Student Affairs Office.

Petition for Advancement to Candidacy Form

Once your committee has been appointed by DGE, you must complete a "Petition for Advancement to Candidacy" form. This *must* be completed by the second week of the Spring quarter. To allow sufficient processing time, it is recommended that you turn in the form to the Student Affairs Office by Week One of your intended graduating quarter.

The Master's committee has the responsibility of approving your Master's Thesis online using ETD (online filing) by the required deadline.

We highly suggest that you register and attend one of the Master's Thesis & Doctoral Dissertation Filing Meetings that are available through UCLA Graduate Education. The workshop will cover all the details related to filing your Master's thesis.

Other responsibilities:

- Regularly scheduled meetings with your faculty advisor
- Course substitutions must be approved by the faculty advisor
- Students are given a maximum of 5 academic quarters to finish their MS coursework and thesis
- Students will be notified if they are not making adequate progress in the program

Important Dates and Deadlines:

- Nomination of Master's Committee Form: first week of the spring quarter
- Petition for Advancement to Candidacy Form: first week of the spring quarter
- Attend a Master's Thesis & Doctoral Dissertation Filing workshop: winter or spring quarter

Biochemistry, Molecular, and Structural Biology

Please schedule a meeting with Angel Perez in College Honors (A-311 Murphy Hall) to file a petition to exceed maximum units.

Course Requirements:
A minimum of 38 units of coursework are required. At least 20 of the 38 units must be at the graduate-level graded courses (courses numbered 200 and above). *No undergraduate (100-level) courses may count toward master's degree requirements.*

Required courses include Chemistry and Biochemistry 269A-269B-269C-269D-269E (10 units); and Chemistry and Biochemistry 268 during the first three quarters. Additional lecture courses are chosen from a list of approved graduate courses available from the schedule of classes.

Up to 8 units of Chemistry and Biochemistry 598 may be applied toward the degree requirements. Substitutions may be made with consent of the faculty area adviser.

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Nomination of Master's Committee Form
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Specialization Course Requirements

In addition to the courses listed below, students in each specialization may also sign up for their research mentor's group meeting section (S/U grading) – please discuss this with your advisor to select the correct course and section. You may also enroll in research units (Chem 598, S/U or letter grading) in your advisor's section of the course.

Organic Chemistry

Course Requirements:

- Chem 236, C243A, 244A (letter grade)
- Three courses from Chemistry and Biochemistry 205A, 207, C243B, 244B, C245, C281, 241B, or other courses with approval of the organic chemistry area adviser (letter grades)
- Chem 248 every quarter (S/U grade)
- Chem 247 every quarter (letter grade)
- Chem 400 (S/U grade)
- Chem 598 (research units in your advisor's section) every quarter
- Group meeting course in your advisor's section every quarter

Materials Chemistry

Course Requirements:

- Chemistry and Biochemistry C280 and C285 (letter grade)
- Two classes from the following: Chemistry and Biochemistry 207, C215A, C215B, C223A, C223B, 236, C243A, C243B, 244A, 244B, C276A, C276B (letter grades)
- One from: Chemistry and Biochemistry C240, 267, or any class from the preceding group not already taken. Other graduate courses from outside of Chemistry and Biochemistry may also be used with approval of the materials chemistry area adviser (letter grade)
- Chem 228, Chem 247, or Chem 278 every quarter (letter grade)
- Chem 400 (S/U grade)
- Chem 598 (research units in your advisor's section) every quarter
- Group meeting course in your advisor's section every quarter

Inorganic Chemistry

Course Requirements:

- Chemistry and Biochemistry 207, C267, C276A, 279 (if offered that year) and C280 (letter grade).
- One elective course from the following: Chemistry and Biochemistry M205, C213B, C215B, 215D, C223A, 236, 241A through 241Z, C243A, C243B, 244A, 244B, C274, or other graduate courses with the approval of the inorganic chemistry area adviser (letter grade)
- Chem 278 each quarter and one quarter of Chem 282 (letter grades)
- Chem 400 (S/U grade)
- Chem 598 (research units in your advisor's section) every quarter
- Group meeting course in your advisor's section every quarter

Biophysical (Track A) Chemistry

Course Requirements:

- Chem 215A, 223A, and 223B (letter grade)
- A minimum of 8 units from: Chem M230B, 257, 269A-C; Physics 220, 241A-C (letter grade)
- Chemistry and Biochemistry 228 or 268, every quarter (letter grade)
- Chemistry and Biochemistry 400 (S/U grade)
- Chem 598 (research units in your advisor's section) every quarter
- Group meeting course in your advisor's section every quarter

Biophysical (Track B) Chemistry

Course Requirements:

- Chem 269A,B,C, Chem M230B or Chem 257, Chem C200 or CM260A, and one quarter of Chem 258 (letter grade)
- 8 units of additional graduate courses from these options: Chem M230B, 257, M230D, CM260A, CM260B, Physics 220, Chem C223A, Chem C223B. The same units cannot be used to satisfy the preceding course requirements (letter grade)
- Chem 268 or 228, every quarter (letter grade)
- Chemistry and Biochemistry 400 (S/U grade)
- Chem 598 (research units in your advisor's section) every quarter
- Group meeting course in your advisor's section every quarter

Theory and Computation

Course Requirements:

- One of these sets of requirements (a or b) from Chemistry and Biochemistry:
  a. C215A, C215B, C223A, C223B, and C226A
  b. C215A, C223A, either C215B or C223B, and 2 courses from the following: Chemistry and Biochemistry C245, C215C, C223C, C226A, CM260A, 269A, 269B, C276A (letter grades)
- Chem 228, every quarter (letter grade)
- Chem 400 (S/U grade)
- Chem 598 (research units in your advisor's section) every quarter
- Group meeting course in your advisor's section every quarter

Physical Chemistry

Course Requirements:

- Chem C215A,C215B, C223A, C223B, or equivalent substitutions can be made with the approval of the physical chemistry area advisor (letter grade)
- A fifth graduate-level (200+) graded lecture course from the Chemistry and Biochemistry department or an appropriate course from an outside department – this course must receive written (email) approval from the physical chemistry advisor
- Chem 228 every quarter (letter grade)
- Chem 400 (S/U grade)
- Chem 598 (research units in your advisor's section) every quarter
- Group meeting course in your advisor's section every quarter

Chemical Biology

Course Requirements:

- Chem 205A, 269A, and 269C (letter grade).
- Choice of 244A or 243A (letter grade).
- Three courses from Chem 240, 243A, 243B, 244A, 244B, C264, 266, 269B, 269D, 269E, C279, C281**,** or other courses with approval of the chemical biology area advisor. The same units cannot be used to satisfy the other course requirements (letter grade)
- Chem 205B, 206 (Fall, Winter, and Spring), 203B or 250, and 400 (S/U grade)
- One department seminar course each quarter - choice of 247 or 268 (letter grade).
- Chem 598 (research units in your advisor's section) every quarter
- Group meeting course in your advisor's section every quarter

Analytical/Instrumentation Chemistry

Course Requirements:

- One of these two sets of courses:
    a. Chem C215A, Chem C223A
    b. Chem C243A, Chem 244A
    c. Chem 207*, Chem 276A
    d. Chem C279* and CM205A
- One of these courses: Chem 257, Chem C285
- At least 8 units from: Bioengr C204, Bioengr M225, Bioengr C231, Bioengr M248, Chem 208*, Chem 236, Chem C240, Chem 266, Chem 269, Chem 276B, Mat Sci 211, Mat Sci 225, or other courses approved by area specialization advisor
- Chem 400 (S/U grade)
- Chem 598 (research units in your advisor's section) every quarter
- Group meeting course in your advisor's section every quarter

*These courses are not available every year. Check with area advisor for substitutions.

Biochemistry

Course Requirements:

- Chem 269A-E (10 units)
- At least 16 units from the following categories:
    a. 10-12 units from the following approved *graded lecture courses*: Chem M230B (4 units), Chem M230D (2 units), Chem C250 (4 units), Chem 257 (4 units), Chem 259 (2 units), Chem C264 (2-44 units), Chem 265 (4 units), Chem 266 (4 units)
    b. 4-6 *seminar* units (students may choose to take seminar units, or additional graded lecture courses): Biol Ch 254A-D, MPharm 287, Biol Chem 251B, Biol Chem 251C, Biol Chem 266B
- Chem 268 each quarter (Biochemistry Research Seminar)
- Chem 256 each quarter (group meeting course with your advisor)
- Chem 598 each quarter (research credit)