

Research for Credit Options

Students can do research in three ways: (1) as a volunteer, (2) for money/pay, or (3) for academic credit. This document discusses only the “research for credit” options.

Independent Study Option: CHEG 366 or CHEG 466

One way to get credit for research is through the independent study courses, CHEG 366 or CHEG 466. These are variable-credit courses. It is recommended that 3 credits require an average of 10 hours per week of work. After enrolling in CHEG 366 or 466, the student must complete a [webform](#) to serve as a “contract” that clearly communicate the expectations of the research supervisor(s). This form will be necessary to document the grade earned in the course.

Chemical & Biomolecular Engineering majors are only permitted to enroll in CHEG 366, which must be taken on a pass-fail basis. This course does not count toward the major. The primary reasons to pursue this option is to maintain a specific enrollment status, obtain a certain number of credits, and/or to have a way to document the work being accomplished.

At the discretion of the research supervisor(s), CHEG 366 may be taken in any semester, and may be taken in addition to the thesis courses.

Majors outside of Chemical & Biomolecular Engineering who want this “research for credit” working with a faculty member in this department should enroll in CHEG 466 and discuss the Grading Basis with their faculty member.

Thesis Options: UNIV 401/402 or CHEG 473/474

Chemical engineering majors who want to earn graded credit for research are only permitted to do so in their senior year. Up to six credits of research can be used to count toward your degree.

UNIV 401/402: The University administers UNIV 401/402, and there is a requirement to write a formal senior thesis at the end. There is also a formal thesis defense that is evaluated by a committee. Students who do UNIV 401/402 get a *Degree with Distinction*. Information on the University senior thesis and Degree with Distinction via UNIV 401/402 is available at [this website](#).

There is a formal application process that must be completed before you can be admitted into UNIV 401/402. Please be mindful of the [deadline](#) as it is earlier than the deadline to take CHEG 473/474. UNIV 401/402 requires a minimum overall GPA of 3.0 and a GPA in the major of 3.5. The GPA average in the major is computed from the grades of all CHEG courses (and co-listed CHEG courses). If you need confirmation of your major GPA, please use the tool provided [here](#).

You must complete the entire six credits of UNIV 401/402 for a thesis and a degree with distinction.

CHEG 473/474: The Chemical Engineering Program administers CHEG 473/474. You are required to submit monthly reports each semester (culminating in a thesis or other final document mutually agreed to with the research supervisor/s), but there is no formal defense, as in UNIV 401/402. Admission to CHEG 474 in the spring semester is contingent on good progress in CHEG 473.

Research may be done in other “adjacent” departments as long as the work is technical.

The prerequisite for CHEG 473 is prior approval of research advisor and the CHEG 473 course instructor(s). This prerequisite is not enforced by the registration system; students should register themselves for CHEG 473 and will hear from the course instructor(s) at the start of the semester regarding the course and how to verify the prerequisite.

The CHEG 473 course instructor(s) will require a one-page document to explain the proposed work. At a minimum, this document must include the following:

- (1) Project Title
- (2) Name of Research Advisor(s)
- (3) Brief Objectives
- (4) Brief outline of research tasks to achieve the stated objectives
- (5) Metrics to evaluate successful attainment of the objectives

The research advisor(s) and the instructor(s) for CHEG 473 must approve this document.

Using CHEG 473/474 or UNIV 401/402 for Major Requirements

By default, CHEG 473, CHEG 474, UNIV 401, and UNIV 402 all count as Chemical Engineering (“CHEG”) Electives for the Chemical & Biomolecular Engineering degree.

Alternatively, a student may request to count CHEG 473 or UNIV 401 to replace the CHEG 445 (Chemical Engineering Laboratory II) requirement. This substitution may only be permitted in the below circumstances:

- You can choose to use CHEG 473 or UNIV 401 in place of CHEG 445 if you earn a B or better in CHEG 345 and a C or better in both CHEG 473 and CHEG 474 or in both UNIV 401 and UNIV 402.
- You must complete the entire six credits of CHEG 473/474 or UNIV 401/402.

- CHEG 473 or UNIV 401 will not count as a CHEG Elective, because it is completely replacing another degree requirement.
- CHEG 474 or UNIV 402 will continue to count as CHEG Elective credit.

NOTE: only six credits of research can be used toward degree requirements.