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DOUBLE MAJOR/SIMULTANEOUS DEGREES

Double majoring as a student in the College of Chemistry is generally quite rare, with only a handful of students (xxx out of a class of about 200) doing so each year. This is largely due to both the nature of courses within the College of Chemistry and the atmosphere.

Classes within the College of Chemistry are notoriously difficult, with low average grades and a relatively unforgiving grade distribution. Recent figures released by the ASUC Academic Affairs Vice President (AAVP), VC Finance Office of Planning and Analysis (OPA), and the Office of the Executive Vice Chancellor and Provost (https://pages.github.berkeley.edu/OPA/our-berkeley/gpa-by-major.html) show that the 10-year average GPA for students within the College of Chemistry is 3.335 for Chemistry, 3.274 for Chemical Biology, and 3.248 for Chemical Engineering Majors. This is in stark contrast to the average high school GPA of 3.92 of incoming freshmen throughout UC Berkeley (and 3.75 GPA for transfer students). Chemical Engineers in particularly tend to have heavier-than-average course loads in order to fulfill all major requirements. Therefore, students within the College of Chemistry often do not have the time to complete all the requirements for a double major and succeed at the same time.

Even for students who excel within the College of Chemistry, many choose against pursuing a double major. This is largely because the atmosphere within the undergraduate population tends to emphasize achieving great depth in chemistry and chemical engineering education, and not breadth. Many students, especially chemistry and

chemical biology majors, spend 10-15 (or even more) hours conducting research to answer specific questions related to chemistry, and will often choose to take courses that complement their research. As such, it is more common for undergraduates to take graduate-level courses in chemistry and related fields than it is for them to be double majors. Furthermore, students who succeed within the College of Chemistry often choose to spend any additional time invested in student organizations and teaching (orgs.html) instead of taking additional classes. Both this and the rigor of Chemistry and Chemical Engineering courses results in the fact that double majoring within the College of Chemistry is extremely rare.

The above is not meant to discourage those who want to pursue two majors, but to relay the realities of such an endeavor. It is, of course, not impossible for students to double major/obtain a simultaneous degree while in the College of Chemistry. This post will guide students who may be considering doing so.

DOUBLE MAJOR OR SIMULTANEOUS DEGREE?

What is the difference between a double major and a simultaneous degree? Double majors are those that are pursued under the same college (and often will have the same degree, ie. Bachelor of Science or Bachelor of Arts). For example, a student majoring in Mathematics and Physics will be obtaining a double major, as both are offered in the College of Letters and Sciences (L&S). A simultaneous degree, on the other hand, is the completion of two majors that pursued under different colleges at UC Berkeley. For example, a student who is majoring in Chemical Biology and Computer Science will be pursuing a simultaneous degree, since the Chemical Biology major is offered in CoC and Computer Science major is offered in L&S. The difference is primarily in name, although those who will pursue a simultaneous degree must fulfill the college requirements of both schools they will be pursuing a degree, while those who pursue a double major will only be an undergraduate in one college, and thus only need to fulfill the college requirements for that college.

This is separate from the joint majors (see: CBE + MatSci Joint Major (../majors/cbematsci.html) and CBE + NucE Joint Major (../majors/cbenuce.html)) offered by both the College of Chemistry and the College of Engineering (CoE). Joint majors are single majors that are interdisciplinary in nature as they have requirements that are in

both departments. The workload associated with these majors is also comparable to a single major. Students who are joint majors are concurrently enrolled in CoC and CoE but are primarily considered students in the College of Chemistry.

Within the College of Chemistry, a Chemistry and Chemical Biology double major is not allowed because of the large amount of overlap between their upper division requirements. Students will often switch between the two majors instead if or when their interests better fit the other major. Furthermore, Chemistry/Chemical Biology and Chemical Engineering double majors are practically unheard of because of the heavy workload for Chemical Engineers and the fact that the upper division chemistry/chemical engineering courses that would be of interest to double majors count towards upper division electives. As such, those who double often do so to pursue a simultaneous degree with another department at UC Berkeley.

For those who are Chemistry majors and are interested in pursuing another major, the Chemistry B. A. (../majors/chemba.html) offered through the College of Letters and Science works much better as one half of a double major, since there are less upper division requirements.

GOOD AND BAD REASONS TO DOUBLE MAJOR

There are good and bad reasons for double. Those who want to double major for any of the bad reasons listed below should take some time to figure out why they may want to double.

Bad:

1. **I want to be a more attractive candidate for companies:** For students who are interested in pursuing a career in chemistry, chemical engineering, or a related field, a double major will not necessarily increase your chances of getting a job or of negotiating a higher salary. When hiring students in college, companies first look for relevant internship and research experience before turning to coursework. Then, when reviewing coursework, special emphasis is placed on relevant coursework and the grade obtained, not the degree held. So, a Chemistry + Computer Science double major would not necessarily be held in higher regard than a computer science minor or even a chemistry major who took relevant computer science courses. Furthermore, students who are doubling often spend a lot of time on coursework, decreasing the amount of time that could be dedicated towards research during the

semester or internships during the summer (as many double majors often have to take summer courses). They may also obtain lower grades in relevant courses due to their heavier workload, all of which makes it more difficult to be an attractive candidate for companies.

2. **Double majoring looks good for grad school/med school/ (insert whatever) school:** Similar to the rationale for the first point, double majoring is not necessarily advantageous for graduate or professional school:
   Graduate School: Professors evaluating students into their graduate program will first look to relevant research experience and your performance in research, as described in letters of recommendation when determining who to admit. Then, like companies, they will look towards grades in relevant coursework. Therefore, a double major is not selected for (or against) when evaluating students for graduate school. Students who complete relevant coursework in another field will be held equally as highly as students who double major in the other field, provided that the grades attained are the same. However, the opportunity cost of a double major may result in a weaker application overall.
   Professional School: Professional schools often accept students from a wide variety of backgrounds/majors, and so they first look at the overall GPA of the student when evaluating the strength of the application. As a double, having a heavier course load means less time to focus on a specific class to do well, and therefore a lower GPA.
3. **I did well in high school, I can handle the course load:** Double majoring is not necessarily something that you should do just because you can! There are a lot of other things that you can do with your time that may be more fulfilling. Double majoring should only be an option for those who will fulfill a personal need or goal by doing so, not for those who simply want to show that they can do something. Furthermore, as noted earlier, students who were top of their classes in high school find that the college of chemistry is demanding, meaning that it is not necessarily the case that those who do well in high school will do just as well here.

Good:

1. **I am genuinely passionate about both fields:** Good! Then double majoring is for you! Before you commit, it is a good idea to think of what in the two fields especially interest you, and which classes you will like to take. Many students are passionate about multiple fields, but then realize that they are only interested in a small number of classes. Then, depending on the number of courses they are

interested in, they choose to minor (or simply take additional courses) in that field instead. If you see that many courses are interesting to you, then feel free to start the process of being a double major.

2. **I can see the connections between these two majors and want to explore how they overlap:** This is also a great reason to double major. But, it is good to first double check to make sure that the courses that you would want to take to explore how your two fields work together are offered by faculty within both departments. Sometimes the connections that you may see in your work may not be obvious to those in the field or may not be substantial enough to pursue a double major. If this is the case, it is often better to look into options like minors, research (great if you can find a faculty member that works at the intersection of your interest!), DeCals (decal.org) (facilitating or taking a course), and independent study. If, after looking up the classes, you believe that there is enough overlap to complete a double major, then feel free to continue!

I'VE DECIDED I WANT TO DOUBLE! WHAT DO I DO?

First, check your other major and see what the requirements are for declaring that major and for applying to that college. Trying to apply to be in the College of Chemistry? The current requirement is that students must have spent a year at Berkeley before applying for a change of college or a simultaneous degree. Trying to double in business? Make sure you keep up with the requirements and deadlines for the application to the Haas School of Business.

Then, double check all the major requirements for both of the majors you are interested in. Here, you should be writing in potential courses you would use for your elective (something that you will have to do on the simultaneous degree or double major form anyway!) and keep track of which upper division courses you plan on applying to both majors. Remember, your majors can only have two overlapping upper division (Course Number = 100+) courses (no limit on lower division courses) maximum.

Then, fill out the relevant form (https://chemistry.berkeley.edu/ugrad/current-students/academic-policies#7) and obtain signatures from the college and major advisors. Make a couple copies, and then turn it in!

Final word of advice: it is good to formally declare a double major later rather than sooner (supposing that you don't pass the deadline to declare a double) because after formally declaring a double, you must check in with your advisor for both majors every

semester afterwards, which can be a nuisance. This doesn't mean that you shouldn't be working towards the double as soon as possible (you should), just that the paperwork does not have to be turned in the moment you start working towards it. It is also advantageous to wait and take a couple courses before formally declaring your second major so that you can make sure that you're interested in the second major before submitting your forms. The rule of thumb is to declare before any deadline, or to declare the semester before you plan on taking courses that are majors-only or have reserved seats that you need to fill, whichever comes first.

Written by: Angela Lee

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