2019-2020 Guide to the Global Disease Biology (GDB) Practicum

Who is this guide for?
This ‘Guide to the GDB Practicum’ is primarily written for students majoring in Global Disease Biology (GDB), but may also be helpful for faculty who are considering to become a Practicum Mentor for one or more students in the GDB major. It contains a lot of important information, so read it carefully and in its entirety. The Guide is updated every academic year, so make sure you are reading the most current version.

What is the GDB Practicum?
The GDB Practicum is a 1- or 2-quarter research experience that allows GDB majors to benefit from working closely with (typically) a UC Davis faculty member on a topic related in the broadest sense to health and disease. Students are responsible for identifying, by the Spring quarter of their junior year at the latest (but sooner is recommended), a faculty member whose research program they are excited about and would like to contribute to, and who agrees to serve as the student’s Practicum Mentor. The idea behind the Practicum is to learn how to apply the scientific method to a question that is defined and refined by the mentee-mentor pair and that gets answered by the student, with guidance from the mentor, through experimentation, data crunching, or a focused synthesis of the scientific literature. A key deliverable of the practicum is a report in which the student details, analyzes and interprets their findings in the format of a scientific manuscript. Typically, this so-called Practicum Report is between 10 and 20 pages in length, but can be longer, commensurate with the topic and with the 1- or 2-quarter duration of the Practicum.

How does the GDB Practicum work?
The GDB Practicum consists of two parts: GDB 189 and GDB 189D. The first part, GDB 189, is listed in the UC Davis catalog as a 3-unit course entitled ‘Global Disease Biology Senior Research’ and is appropriately referred to as the ‘capstone research experience for the GDB major’. Typically, the GDB 189 Instructor of Record is the UC Davis faculty member who also serves as the student’s Practicum Mentor. On rare occasions, the GDB 189 Instructor of Record and Practicum Mentor are not the same person (more on this below). The 3 units of credit for GDB 189 represent a commitment of 9 hours per week, and students enrolled in GDB 189 are expected to invest at least that amount of time on research, whether it be lab work, data analysis, or searching the literature, in consultation with their Practicum Mentor for a minimum of 90 hours per quarter (9 hours per week, 10 weeks per quarter). GDB 189 may be repeated once for an additional 3 units of credit in a following quarter. Additional hours and quarters may be spent by the student on the practicum project, but that additional time cannot be claimed as GDB 189 units; however, they may be counted as 192, 195 or 199 units, at the discretion of the practicum mentor. Students are graded for their performance in GDB 189 by their GDB 189 Instructor of Record. Grading is on a Pass/Not Pass basis, following an overall assessment of whether the student satisfactorily engaged with the Practicum Mentor and/or with members of their research group in formulating and testing a research question, having spent a minimum of 9 hours per week on the project, and having generated, collected and analyzed a sufficient body of data to generate an outline or
shared research interests, possible project topics, and expectations, and that the faculty member agreed to serve as your Practicum Mentor. It takes time and effort on the student’s behalf to get to that point, and it is crucial not to underestimate this time and effort.

As a student, you may consider different strategies to search for a potential Practicum Mentor. Explore the UC Davis website for faculty and research that appeal to you. Maybe there was a class you really liked and you are interested in the research that the instructor of that class is involved in, or the instructor knows of such research groups on campus. Contact potential Practicum Mentors by e-mail. Explain to them what the GDB Practicum is (pitch it as a unique opportunity for you as the student and for them as the mentor; don’t sell it as a graduation requirement that you just need their signature on). Explain what your goals are for the Practicum and what their responsibilities are as Practicum Mentors; share with them a copy of this Guide to the GDB Practicum. Be prepared to not always get a reply from those you contact or to not always get a favorable reply (‘sorry, not at this time’). However, when you do get invited for a meeting with a faculty member, talk to them about your interests in health and disease in general and in their field of expertise specifically (do your research, know their background) and about your plans once you graduate. Keep your resume updated and ready to share with them. Do the same for your list of GDB Restricted Electives, and if you are still looking for REs, ask what classes a potential faculty mentor would recommend to enhance a possible GDB Practicum experience in their lab. During your meeting(s) or e-mail exchanges, already talk about the possible question or hypothesis that you would like to address as part of your GDB Practicum, how you would like to answer that question or test that hypothesis. You may not get to work on that question or hypothesis, but it shows that you are serious about the research. Talk about what kind of GDB Practicum experience is most appropriate in the group of this faculty member: wet-lab, big data exploration, survey and analysis, fieldwork, or a meta-analysis of the scientific literature? Keep in mind that your Practicum Project may be a smaller part of a larger project that the Practicum Mentor’s research group is already working on, which is perfectly fine, and which might mean that you will be working closely with a graduate student or postdoc in their group. Make sure that as a GDB 189 student you adhere to basic rules of professionalism and ethics (which you should also talk to your Practicum Mentor about), which include sticking to the time of mutually agreed upon meetings, on-time completion of mutually agreed-upon work, showing up to meetings on time, being in the lab when you say will be there, communicating in a timely manner if and when something unexpected comes up, respecting the time not only of the instructor but of other team members like students, lab managers, and postdocs, etc. Many mentors will communicate with their group members via e-mail, so please plan to check your UC Davis e-mail regularly (approximately daily or more), or consider sharing a personal e-mail address with your mentor if you check that account more regularly. If you and/or your potential mentor are unsure whether to commit to a GDB 189 experience, explore with the faculty member the possibility of first doing a ‘192’ variable unit internship, a ‘199’ special study, or similar, in their laboratory: this will offer an opportunity to check each other out and decide whether or not you make a good GDB Practicum mentee/mentor match.

As a GDB student, you will be taking the 3-unit course GDB 187 (listed as Global Disease Biology Seminar in the UC Davis catalog) sometime in your junior or senior year. GDB 187 will help to prepare you for GDB 189 and 189D, but you are encouraged to start looking for a practicum mentor as soon as possible.
criterion for passing is approval of the report by your Practicum Mentor and/or GDB 189 Instructor of Record, as evidenced by their signature on the cover page.

FINAL IMPORTANT REMINDER: GDB 189 and GDB 189D are required classes for students in the GDB major. Put another way: you cannot graduate with a BSc degree in GDB from UC Davis without a Pass grade for both GDB 189 and GDB 189D. Our advice to start looking for potential practicum mentors early stems from our experience that some students start too late, run out of time, and find themselves having to enroll into (and pay for) one or more extra quarters to satisfy the GDB 189/GDB 189D requirement.

Questions?
If you still have questions about the GDB Practicum, GDB 189 or GDB 189D, please contact the GDB advising staff by phone or e-mail at (530) 754-4131 or gdb-advise@ucdavis.edu.

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