From orals to graduation:
Guidance on student progression

Our goal is for all students to successfully complete their PhD. Formal policies are documented elsewhere; this document expands on those policies with 'best practice' guidelines for students and faculty. This document is provided by the iPQB Executive Committee, which has broad responsibility for overseeing student progression, including both monitoring the progression of individual students, and making recommendations concerning policies and important issues such as time-to-degree.

Academic Advising

First years:
Academic advisors are available to assist first year students in exploring rotation and curriculum options. First years are required to meet with the pre-assigned academic advisor prior to the start of classes and again prior to Winter and Spring.

Second years:
Advisors are available to assist second year students in their preparation for the oral exam including brainstorming ideas for committee members. Second years are required to meet with the pre-assigned advisor once in the year.

Third years and up:
Advising at any time is encouraged but is optional. Your advisor can help with the selection of thesis committee members, and can assist with any issues that come up throughout your time in the program. You may wish to make use of your advisor for advice related to any concerns you are having in your lab.

Oral Exams

Goals	Assess the thesis project being proposed and the student's preparation to carry it out. Students should propose what they actually want to do for their thesis, not a 'hypothetical project'.
	That being said, the proposal should not be a wish-list of everything one might hope to accomplish, but a focused inquiry --- the core of the thesis, which might lead to (roughly speaking) 2 or 3 significant papers if all goes well.
	Further guidance for orals preparation is provided to students near the beginning of the second year.
Deadline	End of the second year, effectively the end of August. Exceptions are only granted in unusual cases (e.g., a leave of absence).
Composition	Four faculty, who cannot include the thesis advisor or co-advisor. By university policy,

of the committee	the faculty must be 'members of the Academic Senate', but all members of our graduate programs satisfy this requirement; other faculty, e.g., adjunct faculty or even faculty from other universities, can be approved on a case-by-case basis. At least two of the faculty should be members of iPQB; again, exceptions can be granted if there is a compelling reason. The chair of the committee has a few additional responsibilities, including deciding when to end the exam; the chair is also asked to provide feedback to the student's primary advisor, and to communicate with the program administrator, especially in cases where the exam results in a 'conditional pass' or 'fail'.
Pre-exam Procedure	• **Concept –** The proposal is developed by the student in collaboration with their advisor(s), generally starting early in the 2nd year. This process should be synergistic with actually starting on the research. Although extensive preliminary results are not expected, students who have started on the project are generally able to discuss the project in a more sophisticated manner because they have a clearer understanding of what is realistic, what the challenges may be, etc. • **Written Proposal** – The written proposal itself should be approximately 3-5 pages, with the first page providing a succinct overview. Figures can be helpful and need not count against the page 'limit'. • **Committee** – The student should start forming the committee, i.e., by asking faculty members to serve on it, well in advance of the anticipated exam date, at least 3 months. Simply scheduling the exam can be challenging. Generally, when first meeting with the committee members, the student should bring a short summary of the project including the draft aims, to get high-level feedback before writing the full proposal. This should be at least one month before the exam, so feedback can be incorporated into the proposal. • **Practice** – While not a formal requirement, the best way to prepare is to hold practice exams, e.g., with senior students.
Exam Procedure	1. The full written proposal should be provided to the committee members at least 3 weeks prior to the exam, to allow them to read it and provide feedback (preferably in person). The student should bring copies of the final proposal to the exam itself for the committee members, who may forget to print it out. 2. Before the start of the exam, students may write an outline of their proposal on the board to guide the initial discussion. Slide presentations are not allowed. 3. The student will be asked to leave the room for a few minutes before starting the exam, to allow the committee members to confer (the student should have met with all of the committee members at least once prior to the exam, but the committee members have likely not discussed the proposal with each other). 4. The student is then called back into the room and asked to first provide an overview

of the major goals/hypothesis/questions of the project and the aims proposed to address these. Five to ten minutes is typical for the overview, and faculty are asked to refrain from asking questions during this introduction.

5. After that, the exam proceeds with the faculty asking questions or raising issues and the student responding.

6. Typically exams last 90 minutes to two hours, sometimes with a short break. When the exam starts to wind down, the chair will ask the student to step out of the room again to allow the committee to confer about whether there are additional lines of questioning needed. If not, then the committee decides whether the exam is a 'pass', 'conditional pass', or 'fail'.

Outcome

- **Pass** – Congratulations! Now get back to the lab … just kidding, enjoy your party.

- **Conditional pass** – Just as it sounds … the student will be formally given a pass on the exam only after having satisfied specific conditions stipulated by the committee. For example, if the committee feels that the student is generally well prepared to undertake the project but has some critical gap in knowledge, the committee can stipulate that the student take an additional course to fill that gap. Or, if the proposal was viewed as mostly solid except for one of the aims, the committee can require that aim to be rewritten. Also very common is a requirement to hold the initial thesis committee meeting earlier than would normally be expected (e.g., within 3 months), generally when the student is considered well-prepared but the committee believes that she or he could benefit from additional discussion of study design, prioritization of experiments, or other issues that are more the purview of thesis committees than oral exam. The chair is generally responsible for evaluating whether/when the conditions have been met, and then signing the 'pass' at that time.

- **Fail** – Generally occurs when the proposal is considered to be fatally flawed or unacceptably sloppy, or when the student is judged to have insufficiently demonstrated their ability to carry out the proposed research. Per university policy, the student can take the oral exam a second time, with the **same** committee. In such cases, the chair is responsible for documenting in writing the committee's concerns, which will be shared with the student. A second exam proceeds similarly to the initial exam, but the student must earn a 'pass' in order to continue in the PhD program.

Thesis Committee Meetings

Goals

Broadly speaking, the thesis committee aims to help guide students through their PhD after the oral exam, providing advice on both scientific matters and, especially in later years, career development.

However, the thesis committee also has responsibilities that extend beyond just providing advice once a year. Because the thesis committee is best informed about an individual student's progress, the program directors and the Executive Committee rely on their input to make decisions concerning requests for extension beyond 6 years, and to simply be aware of any impediments to progression towards the degree.

And most importantly, the thesis committee decides when a student can graduate. More on this below.

Deadline	One thesis committee meeting is mandated every 6 months. The first thesis meeting will take place six months after the qualifying exam and then repeat every six months until graduation. Students sometimes seek to postpone the committee meeting so that they can obtain 'one more piece of data'. Don't. Just have the meeting. It's always worthwhile. As with oral exams, it is critical to begin scheduling thesis committee meetings 2+ **months** in advance. As of December 2017, the graduate program will begin to administer thesis meeting scheduling and will work to confirm meeting dates with your committee on your behalf.

More frequent or additional meetings may be required by the Executive Committee in cases where it has concerns about progress, or, towards the end of the PhD, e.g., for students requesting extensions to the "6 year rule".   Students can also request more frequent or additional meetings if, e.g., their project is at a crucial juncture, they are considering significant changes in direction, or otherwise need advice from the committee.

Procedure

1. Students and faculty should expect meetings to require approximately 90 minutes.

2. At the outset, the student is asked to leave the room, largely so that the student's primary advisor can briefly update the other members of the committee on progress and any issues from his/her perspective.

3. The student returns and outlines his/her **goals** for the meeting, which should generally include feedback on both **science** and **career** goals; the balance between these two generally evolves over time.

4. At some point during the meeting, it is often helpful to present a timeline (as realistic as possible) with your goals for the next year and beyond.

5. At the conclusion of the discussion, the student should **summarize** the major points of feedback from the committee; be sure to capture these points in writing.

6. At this point, the student's primary advisor is asked to leave, and the student is given the opportunity to bring up any additional issues that, for whatever reason, he or she feels more comfortable discussing without the advisor present. Sometimes this takes 30 seconds, sometimes longer.

General Guidelines

- The committee members are responsible for following up on any significant issues with the student's advisor and/or the graduate program director, with the student's

knowledge.

- More broadly, if the committee has significant concerns about a student's progress, it is critical that the program director or administrator is informed; the concerns should of course also be communicated to the student and the student's advisor during the committee meeting. These concerns could include: concerns that the student is insufficiently committed to the project, i.e., not putting in enough time in lab, long unexplained absences, etc.; concerns that a dedicated student is not making progress because of potentially insurmountable scientific challenges; or any number of non-scientific issues that interfere with progress. Whatever the case, the graduate program needs to know about it, early enough that the problem can be addressed proactively. The Executive Committee doesn't want to hear about a major issue for the first time when they are asked to approve an extension to the '6 year rule', or when a problem has gotten serious enough that it becomes unclear whether the student will be unable to complete the PhD.

Guidelines for Research Discussion

- Scientific feedback can be broad, i.e., presenting your progress in general, but it is often helpful to solicit specific advice concerning challenges you have encountered. Or you may wish to present an outline of a manuscript that you are preparing, along with key figures, for feedback and advice about how to improve, where to submit, etc.

- Your aim should not be to impress the thesis committee (it is not a continuation of the oral exam) but rather to solicit specific feedback to help you move forward. As such, formal presentations, especially with large numbers of slides, are unhelpful; similarly, there is generally no need to extensively review data that has already been published.

- The committee meeting should be a focused discussion; you have the undivided attention of 3 very smart faculty ... don't waste it.

Guidelines for Career Discussion

- Discussion of career goals is strongly encouraged at all thesis committee meetings, and especially towards the end of the PhD. Thesis committees can be wonderful sources of help in planning the next steps of your career, whether it involves choosing a postdoctoral laboratory, searching for a job in industry, or exploring career options.

- Students should include such topics in their list of goals for the meeting, and ensure that sufficient time is available, i.e., to ensure that the discussion is not pro forma or rushed, squeezed into the last 5 minutes of the meeting.

- Students are strongly encouraged to utilize Individual Development Plans to guide the discussion of their long- and short-term goals. At this time, the NIH does not prescribe any one IDP format, and we encourage students to choose one that they find most useful. Two widely used IDP forms can be accessed on the UCSF Office of Career and Professional Development website (both have UCSF connections; one was developed by former Tetrad student Cynthia Fuhrmann). Simply fill out the forms and bring copies with you to provide to the thesis committee; it is probably best for students to discuss the contents with their advisor(s) in advance.

Student Retreat Talks

Goals
- To provide students with an opportunity to improve their presentation skills.
- To serve as a formal milestone in the long interim between passing the oral exam and graduating, with the student presenting their progress to the entire student body as well as certain faculty.

Guidelines
- Depending on timing of the retreat and other factors, students at the end of their 4th year or in their 5th year will be asked to speak.
- The student's thesis advisor should make every effort to attend.

Graduation

General Principles
- Obtaining a PhD from UCSF signifies that a student has demonstrated the ability to perform and complete high-quality research that makes an original contribution to their field. In practice, the expectation in iPQB is that at least one first-author paper is "in press" before the thesis is signed. Learning to respond to reviewer critiques is a critical part of graduate training. There is, however, no simple bureaucratic formula to determine what is sufficient, and often the body of work forming a thesis is reported in multiple first-author publications; there are way too many scenarios, and so we rely on the judgment of the thesis committees to make the evaluation of a substantial and original contribution to science.
- As discussed above, the thesis committee has broad authority to determine when a student has completed a sufficient body of scientific work to graduate, literally by 'signing off' on the thesis. In rare cases, the Executive Committee and the program director may become involved in the process, e.g., if the student and his/her advisor do not agree on when it is appropriate for the student to graduate.
- **In no case is it acceptable** for a student to ask their committee to sign their thesis solely because they have accepted a job or wish to 'move on' for one reason or another. The degree will not be granted until the thesis committee is satisfied that the requirements for graduation have been met, e.g., by completing the publication process for a critical portion of the thesis, regardless of whether the student remains 'in residence' at UCSF.

Deadline and procedures
- Students are expected to complete their PhD within 6 years, not counting approved leaves of absence. Exceptions can be granted only by the Executive Committee. Generally, the Executive Committee has been inclined to grant approvals for 3-6 month extensions in cases where the student, the advisor, and the other members of the thesis committee all agree that the additional time is warranted, most frequently in

cases where the student is completing an ambitious project.

- The Executive Committee has broad authority to set expectations and requirements for the extension, which may include holding thesis committee meetings (or meeting with the Executive Committee itself) prior to or after approval. Requests for a second extension, beyond an initially granted 3-6 month extension, are subjected to a higher level of scrutiny. In no case will extensions be granted that would cause the total time-to-degree, excluding leaves of absence, to exceed 7 years.

- The written thesis must be provided to faculty _several weeks_ before they are asked to 'sign off', to give them time to review it and provide feedback. Generally, faculty will focus on portions of the thesis that have not yet been subjected to peer review, or any aspects on which the student requests feedback.

- While not required by the University of California, it is highly encouraged and customary for students to present a Thesis Seminar. While the tone is frequently (and appropriately) informal and celebratory, the student should present their scientific accomplishments in a scholarly manner.