E3B Ph.D. Program Handbook

This handbook, created as a guide for Ph.D. students in the Department of Ecology, Evolution and Environmental Biology (E3B) at Columbia University, is under regular revision.

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DIRECTOR OF ADMINISTRATION AND FINANCE (DAAF)
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1. KEY CONTACTS WITHIN E3B

DIRECTOR OF GRADUATE STUDIES (DGS)

The DGS oversees the progress of all students through the graduate programs. They keep records on student progress, process special requests (e.g. registration for independent study, committee membership), and provide advice on all academic matters. Students should go to the DGS for any academic matters concerning their studentship (e.g. degree requirements, research plans). We expect students to be in regular contact with the DGS (HERE for further information).

DIRECTOR OF ADMINISTRATION AND FINANCE (DAAF)

The DAAF is responsible for overseeing the execution of departmental and university policies, including those related to students, and all financial, conference and research approval fellowship, and funding matters. They are the person to see for logistical or administrative matters, but not the person to ask for academic advice.

PROGRAM AND COMMUNICATIONS MANAGER (PCM)

Milestone items are coordinated by the PCM in conjunction with the DAAF. Although the first point of contact for logistical and administrative issues should be the DAAF, the PCM will help coordinate with the DAAF and DGS. They also assist with Directed Research and Reading requests.

GRANTS MANAGER

The Grants Manager works with Ph.D. students in conjunction with the PI primarily to assist them with grant proposal submission, management, budgeting, grant spending, and closeout.

LAB MANAGER

The Lab Manager is responsible for managing laboratory access and conducting laboratory safety training, handling laboratory-related purchasing (field/lab supplies, reagents, outside services, etc.), and ordering hazardous chemicals. They address research equipment issues, usage, and general questions, as well as coordinating research space needs. The Lab Manager also responds to safety protocol questions, manages hazardous waste pickups and inquiries, and oversees laboratory emergencies and spills (after contacting 911 and/or EH&S). Additionally, they schedule the use of department vehicles, address issues requiring Facilities support, and respond to general laboratory and research questions.

DEPARTMENT CHAIR

The Department Chair is responsible for general management of the department, including faculty and staff hiring reviews, and promotion, setting budgetary priorities, and communicating with the departmental faculty at large and the higher-level university administrators. This is the person to see if there are general departmental issues, such as matters of overall policy or general faculty concern.

CONTACTING OFFICE STAFF

When contacting individual office staff over email, please contact the staff member listed above and remember to always copy E3Badmin@columbia.edu for administrative issues and E3Bfinance@columbia.edu for financial matters. This will help ensure that your questions or requests do not fall through the cracks.

2. E3B PH.D. PROGRAM OVERVIEW

PROGRAM REQUIREMENTS

The E3B Ph.D. program is designed as a 5-year course of study. A total of 40 credits are required to complete the program. These students can petition out of a maximum of 8 credits worth of core courses. Core courses, elective courses (including Directed Research and Directed Reading), Thesis Development Seminar, and the Research Seminar (weekly department and student seminars) all count toward the total science credits needed for program completion. In addition to the required credits and courses, all Ph.D. students are required to pass an Oral General Knowledge Exam, a Proposal Defense, and a Dissertation Defense. Students must also hold an annual committee meeting. Requirements for the E3B Ph.D. include:

- 2 Core Courses (Fundamentals of Ecology/Evolution) (total credits: 6) *Required*
- Thesis Development Seminar (total credits: 6) *Required*
- Research Seminar (total credits: 6) *Required*
- Elective Courses (as needed to reach the credit requirement)
- Up to 4 Semesters as a Teaching Assistant
- Oral General Knowledge Exam
- Dissertation Proposal Defense
- Dissertation Defense

TENTATIVE PH.D. TIMELINE

Semester		Year 1	Year 2	Year 3	Year 4	Year 5
Fall	***REQUIRED COURSES***	Fundamentals of Evolution Research Seminar	Thesis Development Seminar Research Seminar	Research Seminar	-	-
	MILESTONE	-	-	Dissertation Proposal Defense	-	-
	POSSIBLE ACTIVITIES	Research	Research	Research	Research	Research
	POSSIBLE COURSES	Directed Research Directed Reading Elective Course	Directed Research Directed Reading Elective Course	-	-	-
	POSSIBLE TEACHING*	-	Teaching Assistantship	Teaching Assistantship	-	-
Spring	***REQUIRED COURSES***	Fundamentals of Ecology Research Seminar	Research Seminar	-	-	-
	MILESTONE	-	Oral Exam M.A. Degree	MPhil Degree	-	Dissertation Defense Ph.D. Degree
	POSSIBLE ACTIVITIES	Research	Research	Research	Research	Research Thesis presentation
	POSSIBLE COURSES	Directed Research Directed Reading Elective Course	Directed Research Directed Reading Elective Course	-	-	-
	POSSIBLE TEACHING*	Teaching Assistantship	Teaching Assistantship	-	-	-

* Teaching is typically done in Semesters 2-5

SUMMARY OF GRADUATE DEGREES

(1) The sequential M.A. degree is awarded to Ph.D. students who have completed two full years in the program (if they do not already have an M.A. degree).

(2) The MPhil degree is awarded upon successful completion of all the Ph.D. requirements, other than defense of the dissertation (see above).

(3) The Ph.D. degree is earned after the defense and final deposition of the dissertation.

PH.D. FORMS

All E3B forms (for committee meetings, grant proposals, etc.) can be found on the E3B website. Academic forms can be found HERE. All other forms can be found HERE.

CORE COURSES

All first-year Ph.D. students are required to take two core courses, Fundamentals of Evolution (EEEB GR6110) in the Fall and Fundamentals of Ecology (EEEB GR6112) in the Spring. Students must receive a grade of B or higher to claim successful completion of the core course requirement.

THESIS DEVELOPMENT SEMINAR

All 2nd year Ph.D. students are required to take Thesis Development Seminar (EEEB GR6850) in the Fall. This course helps guide students towards candidacy and is designed to engage students in research early in their academic careers by teaching them the necessary skills to be effective and independent researchers. Students conduct an extensive literature review, write a preliminary dissertation proposal, and present their research ideas to the group. Students learn how to give and receive constructive written and oral feedback on their work. Finally, this course is an important cohort-building opportunity for the 2nd year cohort. Instructors use a pass/fail grading system.

ELECTIVE COURSES

Elective courses provide specialized training in the concepts and methods of evolution, ecology, and/or environmental biology. Courses outside of these areas need approval by the DGS to count to the elective credit requirement. Students' advisors and committees should advise on the number and content of elective courses. Courses at schools that are part of the inter-university doctoral consortium (CUNY, NYU, Stony Brook, Princeton, AMNH, etc.) can be used as electives. Students will need to consult those universities' websites for information on current course offerings, and complete the appropriate paperwork (available from the GSAS website HERE).

Students generally fulfill additional credit requirements with courses in Directed Research and/or Directed Reading. These courses give a student the freedom to design their own course of study, within the guidelines of their supervisor for the course. The Directed Research or Directed Reading form must be signed by the supervisor and the DGS, and approved by the PCM up to two days before the end of the add/drop period. Generally, students are expected to devote 3-4 hours of directed studies per week for one credit.

Registering for Directed Research (Fall GR9501, Spring GR9502, Summer GR9503) or Directed Reading (GR9509) allows Ph.D. students to receive academic credit for a one-semester research project or to delve into a specific topic one-on-one with a professor or affiliate, respectively. To register:

1. Download the "Directed Research/Reading" form from the E3B website.
2. Fill out the form. Consult with your advisor about the content, extent, and required activities of the course, and ask for their signature (an electronic signature is acceptable) before proceeding with the next step.
3. Submit *signed* form to the PCM.
4. Register for the correct section and the correct number of points as instructed by the PCM.
5. Register for the course officially through the Registrar and check that the course successfully shows up in your schedule before the add/drop period ends.

Directed Research/Reading forms should be submitted to the PCM two days before the end of the 'add/drop' period at the beginning of the semester — Columbia's Academic Calendar can be found HERE.

To ensure submission of a grade for Directed Research, Directed Research supervisors should submit Grades via web (directions HERE). Please ensure that your research supervisor knows this, and please take responsibility for reminding them of the date by which the grade needs to reach the correct person. If

the grade is not submitted on time, you will receive a grade of CP that will have to be removed by the submission of the grade.

RESEARCH SEMINAR

The Research Seminar consists of two parts, a research presentation featuring practicing scientists (Tuesdays 4:00-5:00 PM) and a student presentation featuring E3B Ph.D. and M.A. students (most Thursdays 2:30-3:30 PM). This series provides an opportunity for students to meet leaders in their field, gain insights into novel techniques and theories, witness proper scientific lectures firsthand, and to present their own research every few years to the E3B community. All 2nd and 4th year Ph.D. students are expected to present their work to the department during the Thursday seminar. Ph.D. attendance at the seminars is required for the first 3 years (or until candidacy is reached), and expected thereafter. Students are encouraged to meet and have lunch with the research seminar speaker. Coffee and cookies are offered before the talk on Tuesdays, and a reception with food and drink is provided afterward to stimulate conversation among students and the speaker.

PH.D. ADVISORS

Students in E3B begin the program with an assigned advisor. Students co-advised by people other than E3B core faculty members must make this official by the end of their first year. To do so, the student and the E3B core faculty advisor must work with the DGS and PCM to petition GSAS to make this happen. Students failing to do this in their first year may not be able to do this later.

PH.D. COMMITTEES

Students will complete the Ph.D. program under the guidance of several committees whose membership usually overlaps substantially. These committees include:

Three-Member Advisory Committee. An entering Ph.D. student has an advisor, and, in consultation with the advisor, develops a Three-Member Advisory Committee by December 1 of the 1st year of study (this includes the advisor). If an advisor and student are not able to identify committee members by this time, the DGS and Department Chair will assign members. The Three-Member Advisory Committee meets with the student during the 1st year Committee Meeting, typically in the spring of the 1st year. This committee gives advice related to course selection, the scheduling of early degree requirements, and early research plans. This meeting should last no more than an hour.

Three-Member Orals Committee. This committee administers the Oral General Knowledge Exam and consists of three faculty members. It *cannot* include the student's primary advisor. In consultation with their advisor, students should develop a Three-Member Orals Committee a few months before they plan to take their Oral General Knowledge Exam. The members of the orals committee should represent at least two of the three pillars of the Department: (1) ecology; (2) evolution; and (3) environmental biology. The orals committee should only include tenure-track E3B core faculty. A list of which faculty members represent these research areas can be found HERE. All members of the Orals Committee must attend in person. The Orals Committee should be formed no later than December 1 of the 2nd year, allowing sufficient time to prepare for the Oral General Knowledge Exam, which must be completed by spring of the 2nd year.

Five-Member Dissertation Committee (same rules for Proposal Defense and Dissertation Defense). By April 1 of their 2nd year, students must form their Five-Member Dissertation Committee. The proposal defense and the dissertation defense will both be conducted by a committee that is composed of exactly five members. Three members of the committee must be core E3B faculty. The Moderator should be a core E3B tenured faculty member who is *not* the student's advisor (this is also a GSAS rule), though the advisor may petition the DGS to allow a Dissertation Committee Moderator who is an untenured E3B faculty member (though not a Lecturer). All committees must be approved by GSAS at the time of the Proposal Defense (students must send CVs of their external committee members to the DGS and PCM). At least three of the members of the committee must be from the list of approved Ph.D. sponsors (HERE; information on adding members not found on this list can be found HERE), and at least one of the five must be either:

1. A faculty member, clinician, or practitioner who holds a position at another university or research institution.
2. A full-time CU faculty member, research scientist, or adjunct professor outside the student's own department or program.

When submitting the Dissertation Defense Application, E3B must provide GSAS with evidence of the external examiner's qualifications, usually a curriculum vitae (CV). Final approval of the members of a final defense committee rests with the Dean of the Faculty of the Graduate School of Arts and Sciences.

FORMING COMMITTEES

Please note that the Advisor, not the student, extends the invitation to faculty to serve on all committees. The Advisor discusses committee membership with the student in advance, but students are not to set up their own committees (this is a GSAS rule). The Advisor also chooses the Moderator of each Committee. The Moderator should be a tenured E3B core faculty member. Further information on forming committees can be found HERE.

ANNUAL COMMITTEE MEETINGS

The main purposes of annual committee meetings are twofold: (1) for the student to get feedback from the committee; and (2) for the committee to monitor the progress of the student. Students will typically meet twice per year with their committees. These meetings must be completed by December 1 and/or April 1 each year. To meet this deadline, students should have scheduled the meeting at least two months in advance. Once they are scheduled, students must provide the PCM with the meeting day. Students should hold an annual meeting with all their committee members present (either in person or via electronic participation). Committee members based in New York City are expected to attend in person. The DGS can help in this process. Since scheduling dissertation committee meetings is challenging, E3B only requires that the 3 core committee members (E3B core faculty) be present at each meeting.

Students are expected to have their advisory committee meeting in the spring of their 1st year, and one dissertation committee meeting in the spring of their 2nd and 3rd years. However, students must have two dissertation committee meetings in their 4th year (both fall and spring), followed by one dissertation committee meeting in the fall of their 5th year, before defending their dissertation in the spring of their 5th year.

The 1st year meeting typically occurs in the spring semester of the 1st year (and must be completed by April 1 and before the student can apply for preliminary research funds). By this point the student's Advisor, with input from the student, should have formed the Three-Member Advisory Committee (required by December 1), so this meeting consists of the student, the advisor, and two additional faculty members. The meeting typically lasts no more than 1 hour. The student should fill out as much of the committee meeting form as is relevant ahead of time and bring it to the meeting.

Part of the Proposal Defense in the Fall of the 3rd year requires developing a clear timeline for the completion of the dissertation. Annual committee meetings in the 4th and 5th year should explicitly discuss progress on the timeline.

Standard format. Formats for annual committee meetings are quite similar. At the beginning of the meeting, the student may be asked to leave the room to permit the advisor and committee members to have a brief discussion about progress toward the degree. Upon their return, the student typically gives a brief presentation (~20 minutes) on progress during the year, including both research and checkpoints, and lays out plans for the following summer and year, including both research and checkpoints. Most people use slides for the presentation. Following and/or during the presentation, the student and the committee discuss the accomplishments and plans, and the committee provides feedback. Topics to cover and discuss include:

(1) Research:

- Accomplishments and plans for the coming year.
- Mention any relevant fellowships/papers/talks/grants.

(2) Coursework:

- Performance in courses taken.
- Discuss plans for future coursework.

(3) Teaching Assistantships:

- Performance in completed TAships.
- Plans for future TAships.

(4) Milestones:

- Performance and/or plans for each milestone (Oral General Knowledge Exam, Proposal Defense, Dissertation Defense).

TIMELINE OF COMMITTEE MEETING AND GSAS MILESTONES

Students should note that the two GSAS-mandated milestones—the proposal defense (which GSAS calls the "prospectus"; HERE) and the dissertation defense (HERE)—are more formal than the E3B-mandated annual meetings, and have one additional purpose. In addition to the formative assessment (feedback) common to all committee meetings and defenses, the defenses provide a summative assessment (pass or not) of the proposal or the dissertation, as required by GSAS. ***All deadlines for committee meetings and milestones (taking and passing) are December 1 in the Fall or April 1 in the Spring (with the exception of the Oral General Knowledge Exam, which is May 1st).***

	Year 1	Year 2	Proposal Defense	Year 3*	Year 4	Year 5	Dissertation Defense
Typical Semester	Spring 1st yr	Spring 2nd yr (unless defending proposal by April 1 of 2nd yr)	Spring 2nd or Fall 3rd yr	Spring 3rd yr (unless defending proposal by April 1 of 3rd yr)	Fall 4th yr and Spring 4th yr	Fall 5th yr, Spring 5th yr (unless defending by April 1 of 5th yr)	Spring 5th yr
GSAS Deadlines	N/A	N/A	May 31st of 4th year	N/A	N/A	N/A	Spring of 7th year
Duration	1 hr	1 hr	3 hrs	1.5 hrs	1.5 hrs	1.5 hrs	3 hrs
Committee	advisory committee	advisory committee or dissertation committee	dissertation committee	dissertation committee	dissertation committee	dissertation committee	dissertation committee
Presentation	~15-20 min, slides common	30 min, slides common	30 min, slides common	30 min, slides common	30 min, slides common	30 min, slides common	30 min, slides required
Focus	Accomplishments and plans for program checkpoints and research	Accomplishments and plans for program checkpoints and research, timeline for proposal defense	Assessment of proposed research, including preliminary work and timeline	Accomplishments and plans for research, timeline for year 4	Accomplishments and plans for research, timeline for year 5	Accomplishments and plans for research, timeline for defending	Assessment of distributed dissertation
Forms (fill out in advance)	Annual committee meeting	Annual committee meeting	Annual committee meeting, Prospectus defense, possibly MPhil	Annual committee meeting	Annual committee meeting	Annual committee meeting	Dissertation defense application (work with DAAF to submit); your committee will have additional forms
Outcomes	Feedback	Feedback	Pass/not pass, feedback	Feedback	Feedback	Feedback, timeline for defending	Accept as Submitted, Approved Pending Revisions, Referred, or Fail
To Prepare	Presentation, form	Presentation, form	Proposal (submit at least 4 weeks in advance), presentation, form	Presentation, form	Presentation, form	Presentation, form	Dissertation (distribute at least four weeks in advance), presentation, form

* The Proposal Defense can substitute for this meeting if done before April 1.

LOCATING AND SUBMITTING FORMS

All departmental forms can be found on the E3B website. Once forms are completed (and signed by committee members), they should be uploaded on the Graduate Student Forms page HERE. All forms submitted to the department should be labeled in the following manner: "Last Name, First Name Title of Form" and include the semester when applicable. Only *completed* forms should be submitted on the Graduate Student Forms page.

TEACHING ASSISTANTSHIPS

Graduate students planning a career in academia often underestimate the importance of teaching experience needed to obtain a job offer. Job candidates for university-level positions are often judged on their potential to fill a particular teaching niche (e.g. "We need a behavioral ecologist"), their potential to teach a variety of courses (e.g. "We need a teacher in behavioral ecology, vertebrate morphology, biometry, and introductory biology"), and the quality of their teaching (judged from student evaluations, letters of reference, etc.). Most job applications require a statement on their teaching experience, objectives, style, and goals. The University offers a number of training programs to develop and improve students' teaching skills (see GSAS resources HERE and CTL offerings HERE).

***Teaching Assistantship Requirements*.** With these job-related pedagogical expectations in mind and as part of their multi-year support package, all Ph.D. students are required to teach up to 4 semesters as student officers of instruction. Teaching duties normally fall between the 1st year and 3rd year of study. In exceptional circumstances (e.g. because of fieldwork) a student may be able to postpone one semester of teaching up to and including Year 4. Any such plan must be discussed early on with the DGS.

Teaching in E3B is seen as an important part of your education and training. Students should communicate with the instructor before the start of the semester about expectations and duties. If there are any concerns about the responsibilities or duties of the course, they should be brought forward to the DGS. Students who fail to complete all of the duties of their TA assignment may be asked to complete an additional TA assignment.

***Teaching Assistantship Assignments*.** The DGS and DAAF will assign teaching assistantships. Students and faculty will be asked by the DAAF and the PCM to submit preferences for TAing particular courses (during Spring semester) and efforts will be made to match the TA to the course that they desire. However, a perfect match is not always possible. In making TA assignments, we take into account student and faculty preferences, special skills, previous assignments, and the needs of the student's educational program and the department's instructional program. The number of TAs assigned to a course is based on anticipated enrollment, demands of the course and teaching style of the instructor. TAs and instructors will be notified of assignments at the end of the spring semester for the following academic year. It is the student's responsibility to reach out to the instructor once they are notified of the assignment in order to discuss duties and expectations prior to the semester start. Please note that students cannot (1) TA for a course for which the department has not officially allocated a TA position, nor (2) enroll in a course for which you are the TA.

GRADUATE STUDENT APPOINTMENTS

Students appointed as student officers of instruction (e.g. Teaching Assistants) or student officers of research (e.g. Graduate Research Assistants) may not spend more than 20 hours per week (on average) in the discharge of the responsibilities associated with their appointment and those associated with any other activity within or outside Columbia for which they are compensated. In the case of students appointed as Graduate Research Assistants (GRAs), any additional work that is separate and distinct from their GRA responsibilities may not exceed 8 hours per week.

Work toward the student's dissertation and time spent as students in their own classes or on their own coursework are not included in the work that is part of the appointment. Students holding fellowships without a service requirement (such as first-year fellowships) may spend up to 10 hours per week on non-fellowship activities. Further information regarding the funding categories for doctoral students and the limitations on hours is available on the GSAS website HERE.

Any consideration of work outside of E3B must be discussed with the advisor, the DGS, and the DAAF before beginning any position. Failure to have these discussions and notify the advisor, DGS, and DAAF could jeopardize a student's Good Standing in the Ph.D. program.

M.A. DEGREE: CREDITS, STANDING, IN-COURSE

Transfer Credits. GSAS allows Ph.D. students who have taken graduate-level courses before joining the program to receive up to 15 points of transfer credits. Transfer credit denotes relevant coursework completed before a student's enrollment in a GSAS degree program that the student submits in partial fulfillment of specific academic requirements for the degree. This determination is made by DGS and advisor and approved by GSAS. During the first semester, students requesting transfer credit should submit the Application for Transfer Credit form as well as any relevant materials (transcripts, syllabi, etc.) to the DGS. Please review the transfer credit policies HERE.

In-course M.A. Ph.D. students should review the Requirements for the M.A. Degree. To maintain satisfactory academic progress in a Ph.D. program, all work for the M.A. degree including any thesis, project, or exam, must be completed within two years from initial registration. Students must complete the in-course M.A. requirements by May 31 of their 2nd year.

EXAMS AND DEFENSES

***Oral General Knowledge Exam*.** All E3B Ph.D. students must pass an Oral General Knowledge Exam as one of the requirements to advance to candidacy. The exam is designed to test students' knowledge in ecology, evolution, and environmental biology as well as their ability to think critically, as detailed in the Oral General Knowledge Exam Rubric. It will consist of a 3-hour oral examination by an Orals Committee consisting of three examiners. All examiners must participate in person. The Orals Committee is tasked with engaging students in an active dialogue about a broad range of relevant issues during the exam. Students should meet with each member of their orals committee at least once prior to the examination to discuss expectations and develop a list of readings. During the exam, the committee is free to ask any questions that they deem relevant.

Students must take and pass the Oral General Knowledge Exam by the end of their 2nd year (end of Spring Semester classes). To meet this deadline, students must schedule and complete their Oral General Knowledge Exam before March 1, so that in the event that they must take it a second time that semester, they have sufficient time to do so.

Passing the Oral General Knowledge Exam will require students to achieve proficiency level averages of "Adequate" or higher in each of the two categories on the rubric. If a student does not pass the exam on the first attempt, they will be allowed to retake the exam by the last day of the semester in which it was taken. If a student does not pass the exam on the second attempt, they will be dismissed from the program.

***Dissertation Proposal Defense*.** Upon successful completion of the core courses and Oral General Knowledge Exam, Ph.D. students will prepare and defend a proposal for their dissertation research (more information from GSAS can be found HERE). The proposal defense is expected to take place by the end of the 5th semester (Fall of 3rd year; end of Fall Semester classes). Students must receive written approval from the DGS if they are unable to complete the Dissertation Proposal Defense by the end of their 5th semester. The goal should be to complete the defense and all of the other required coursework and TAing to be able to reach candidacy by the end of your 5th semester, but no later than the end of the 6th semester in the program.

The parameters of the actual dissertation proposal should be discussed with the Advisor AND Committee Moderator in advance of submission to the Five-Member Dissertation Committee. In general, proposals should be no longer than 15 pages of text (including figures but not references), unless the committee asks for something more extensive. The proposal should also develop a clear timeline for the remaining time in E3B. The defense should be scheduled for the Fall semester of the student's 3rd year. As with the Oral General Knowledge Exam, it is strongly recommended that the Proposal Defense is scheduled early in the semester to allow for any necessary rescheduling. It is the job of the Advisor and/or the Committee

Moderator to discuss committee expectations with other members, particularly those from outside of Columbia.

The Advisor and Committee Moderator must receive the proposal four weeks before the defense. If, after reading the written proposal, the Advisor and Moderator have reservations about the student's ability to pass the defense, they should notify the student, the PCM, the DAAF, the DGS, and the rest of the committee prior to two weeks before the scheduled defense. The defense can be postponed for this reason one time (but must be retaken in the same semester); it cannot be postponed a second time. If the proposal is deemed acceptable, it must be given to the remaining committee members at least two weeks before the planned defense.

The proposal defense must be scheduled for a 3-hour time slot. The student should bring forms for both the proposal defense and the annual committee meeting, filling out as much of both forms as is relevant ahead of time. If you have completed all the requirements for the MPhil Degree (all required coursework, 40 points, M.A., 6 RUs, Oral General Knowledge Exam, at least 2 TAships, and proposal defense), students should also file the MPhil Application (HERE) after the proposal defense. If not, then file it when all the requirements are complete. Typically, people have completed all the requirements when they defend their proposal with the exception of the 6 RUs.

It is expected that all Dissertation Committee members are present in person at the proposal defense, something that should be communicated by the Advisor and/or the Committee Moderator. Members living outside of New York may participate remotely with permission of the DGS and GSAS. Although the committee will determine the best proposal defense format, students are expected to present their research ideas (30 min) and their committee will ask questions (typically consisting of one round) to help focus the research. The student must be able to demonstrate to the committee not only that they understand the research that they are proposing, but they must also demonstrate that the work is feasible and that the student has the means and ability to carry it out.

Following a successful defense, an electronic copy of the proposal and appropriate forms must be submitted to the PCM. After the Ph.D. student successfully defends the proposal and has completed all other necessary requirements (including core courses, science credits, and the Oral General Knowledge Exam), the student then advances to candidacy and receives their MPhil degree. Forms for advancement to candidacy are signed by each committee member after the proposal defense and subsequently submitted by the student to the PCM. Students are generally expected to have completed all TAships before advancing to candidacy. However, under special circumstances, a student may postpone one TAship until after advancing to candidacy.

If a student does not pass the proposal defense, they face two options. First, they may be dismissed from the program. Second, they may be put on probation and given a second chance to defend later that semester. If the student is given a second chance, they must complete and pass the second proposal defense by December 1st. Which option is given will depend on the student's prior standing within E3B and GSAS, their performance in prior courses and exams, and their overall progress in the program to date. This decision will only be made in discussion AFTER the defense with the DGS, the Department Chair, the advisor, and the Dissertation Committee Moderator, in consultation with GSAS.

Dissertation Defense. The dissertation defense is expected to take place by the end of the 5th year, and dissertations should be distributed no later than early April of their 5th year to meet this deadline. The exact timing of the defense depends on the student's progress and the advisor's and committee's determination of whether the student is ready. The dissertation defense fulfills the requirement for an annual committee meeting as long as it occurs prior to April 1 or with DGS approval.

Students writing their dissertation normally circulate drafts of individual chapters to their committee members well in advance of the dissertation defense. The Advisor should read all drafts, sometimes several times if needed, while arrangements with other committee members reflect discussions with the student, advisor, and other committee members. As these preliminary readings and revisions suggest that the dissertation is reaching its final state, the student finds a date that suits all committee members.

Once the committee has decided on a date and time, students must notify the PCM of a final confirmation from all members that they will be present at the defense. Please note that the Advisor and Committee Moderator must attend the defense in person, and no more than two members can participate remotely

(further information from GSAS can be found HERE). The final confirmation must occur at least one month before the defense date. The application for the defense will NOT be submitted to the Dissertation Office until all committee members have confirmed that the date is acceptable.

All committee members must receive a copy of the defendable dissertation at least one month before the planned defense. Two E3B members of the committee must vouch to the PCM that the dissertation is indeed defendable at least two weeks before the planned defense. It is only with these two vouchers that the PCM can schedule the defense and formally notify the GSAS.

Please note that students must be registered for Extended Residence through the semester that their dissertation is distributed. If the defense is held the subsequent semester, the student does not pay further registration fees as long as the dissertation is distributed to the committee before the first day of classes that semester. A confirmation email must be sent to the DAAF. For students on visas, please see the DAAF for information on contacting ISSO and to discuss options for correct registration status. Further information can be found HERE.

The defense is coordinated by the Committee Moderator, and must be scheduled for a 3-hour timeslot. Students should discuss the format of their defense with the Moderator in advance. Once everyone is present and settled, the Moderator will ask the student to leave the room while the committee touches base. When the student is invited back in, the student gives a presentation on the dissertation (with slides). The purposes of this presentation are to remind the committee what was in the dissertation (which they will have read, but might not have looked at recently), to provide any updates on data, analyses, publication status, or conclusions since the written proposal was distributed, and to provide visuals for the entire group to reference during the discussion. The presentation should take 30 minutes. Extra slides with figures/tables from the dissertation that aren't part of the presentation but might be useful to reference during the discussion are often helpful. Typically, the committee holds substantive questions until after the presentation, although they might ask clarifying questions if something is unclear. After the presentation, each committee member will lead a round of questioning, typically for 15-20 minutes. During this time other committee members might jump in with follow-up questions on the same topics. The questions typically focus on the research, related topics, or big picture questions. After the five rounds of questions, the Moderator typically asks if there are any final questions. Once the question period is over, the student is asked to step out while the committee deliberates. When the committee has reached a decision and prepared feedback, the student is invited back in and the decision and feedback are shared with the student. The committee will decide whether parts or the entire dissertation need to be seen again by any or all of its members before filing. Timing of revisions follows GSAS guidelines.

Possible official decisions for the dissertation defense are "Approved as Submitted," which gives the student 1 month to make minor modifications and deposit, "Approved Pending Revisions," which gives the student 6 months to revise the dissertation and deposit, "Referred," which gives the student 1 year to make major revisions and deposit, and "Fail," which results in dismissal from the program without a Ph.D. Revisions following either "Approved as Submitted" or "Approved Pending Revisions" need to be approved by the advisor, whereas a three-member subcommittee (including the advisor) must approve of revisions for a "Referred" decision.

An electronic copy of the dissertation and deposit card must be presented to the DAAF and PCM prior to depositing to the Dissertation Office.

PROGRESS REPORTS/ACADEMIC REVIEW

Students are required to submit the annual committee report to the PCM, DAAF, and DGS by April 1st of each year. The purpose of the report is to keep our records up to date on your coursework, committee membership, research planning and progress, internships, and funding. This information allows the faculty to assess a student's progress at regular intervals, and to intervene for both the student's and the graduate program's benefit when conflicts or problems arise. Students should hold an annual meeting with concurrent participation of all committee members (either in person or via electronic participation). Sequential meetings with individual committee members cannot take the place of annual committee meetings.

GRADES

Letter grades range from A+ to F. A grades are ‘excellent’, B grades are ‘very good’, C grades are ‘fair’, D grades are ‘poor’, and F is failing. For P/F classes, P means 'pass' and F means 'fail.' Fundamentals courses must be taken for a grade, but Thesis Development Seminar, the Research Seminar, and elective courses may be taken either for a grade or P/F; either option counts towards the degree. The minimally acceptable grades are B for courses taken for a grade and P for courses taken P/F. Courses taken for R credit do not count toward the degree. If you have questions regarding grades, speak to the DGS. For GSAS policies on grading see HERE.

GOOD STANDING VERSUS PROBATION

According to GSAS rules, all Ph.D. students must remain in Good Standing within their academic program (HERE for more details). Students that fail to maintain Good Standing are placed on Probation within E3B and GSAS. Students placed on probation will receive a detailed letter from the DGS that clearly states the criteria to be taken off probation. Upon receiving a letter of probation, students must sign the letter and return it to the DGS, their Advisor, and the DAAF to acknowledge the probationary terms. Students on probation will be restricted from receiving E3B grants (E3B Preliminary Research Funding and/or E3B Conference Funding). Upon successful completion of the probationary terms, the student will receive another letter acknowledging that they are no longer on probation. Students that fail to meet the terms of their probation will be dismissed from the program. A non-exhaustive list of why students would lose Good Standing and be put on probation is detailed below:

- Students that do not receive a B or higher in either course are placed on probation, and must complete additional work or repeat the entire course (which outcome to be decided by the instructors in consultation with the DGS).
- Students that do not pass Thesis Development Seminar are placed on probation until they meet the conditions required to pass the course as per the guidelines outlined by the instructor.
- Students with a GPA below 3.00 in a semester.
- Students failing to hold committee meetings (and submit their forms) by December 1 or April 1.
- Students failing to take and pass the Oral General Knowledge Exam by May 1st of 2nd year.
- Students failing to take and pass the Dissertation Proposal Defense by December 1st of 3rd year.
- Students failing to demonstrate making significant progress towards their dissertation at any of their committee meetings may also be placed on probation.

PH.D. STUDENT FUNDING

Arrangements for student funding vary widely. Typically, students are admitted with 5 years of guaranteed funding from Columbia. Further information is provided by GSAS HERE.

Students must be funded to remain in the program. It is the responsibility of the student and their committee to ensure the timely completion of a Ph.D. If a student has not secured funds for any year beyond Columbia’s commitment, their advisor must devise a funding solution for the student. Neither GSAS nor E3B can be expected to provide funding beyond the 5th year.

Students are expected to work with their advisor to obtain funds for their research throughout the duration of the program. A number of students obtain external funds from government (e.g. NSF, NIH, NASA) and NGOs. Students who obtain external funding should consult with the DGS, DAAF, and their advisor concerning effective distribution of resources.

TIME-OFF POLICY AND LEAVE FOR PH.D. STUDENTS

Time-off policies are established by GSAS. Information can be found HERE. Students are allowed only 8-10 days off per year. Additionally, GSAS policy on parental leave can be found HERE.

GRANTS, FELLOWSHIPS AND AWARDS

Applying for grants is important for your career. The more you apply for, the more you are likely to receive. The more you have received, the easier it will be to receive additional grants. GSAS and E3B expect students to apply for funding to support their education (salary, tuition, research expenses, etc.) as well as their research. In this context, it is important to understand the difference between outside- and inside-CU support.

Outside Funds. Outside funds are those where the decision of who gets the funding is made outside the university – this kind of funding would include NSF, NIH, and NASA Graduate Fellowships or research grants from professional societies or other non-Columbia entities. Students should work with their advisors to apply for these awards, and alert the DAAF and Grants Manager about any applications.

Internal Funds. Inside funds are administered within Columbia – these would include various fellowships and awards that GSAS controls. For internal applications, students should coordinate with both the DGS and DAAF before applying. In addition, if applying for the Teaching Scholars Program, students should work with their advisor and the Curriculum Committee to develop the course during the fall semester. The program only provides funding for one semester, so students should plan to teach courses in the fall of their sixth year, unless they secure another semester of funding. A complete draft of the syllabus should then be submitted to the Chair of the Curriculum Committee by December 1. Once approval has been given by both the Curriculum Committee and the DGS, the PCM or DAAF can submit the proposal to GSAS on behalf of the department. If more than one student applies for the Teaching Scholars Program, the Curriculum Committee will rank the courses in order of preference for the department.

The Conference/Research Financial Assistance Package for Ph.D. Students. Pending availability of funds, E3B offers two forms of assistance to Ph.D. students for (1) conferences (E3B Conference Funding) and (2) research in Years 1-2 (E3B Preliminary Research Funding):

E3B Conference Funding: A maximum of $1,000 in travel funds per conference per year (approved by the advisor and DGS) to cover travel expenses, lodging, and registration fees. Funds can only be used for one conference per academic year. Requirements, eligibility, and use of these funds:

- Students can apply for the funds a maximum of four times during their career in E3B.
- All funds must be used by the end of a given academic year (August 31), and unused funds do not roll over to another year.
- Funds in Year 1 can be used to attend a conference without giving a presentation. All other years require proof that you presented (e.g. an abstract or program page).
- Payments to students are in the form of Concur reimbursements after you return from the conference.
- Funds will be accessed through reimbursement. To receive reimbursement from conferences, you will need to submit a completed expense report with the business purpose with individual PDFs of all receipts and credit card statements within 10 days of return from the conference.
- Without appropriate documentation, the reimbursement will not be processed.

GSAS/ASGC Matching Conference Funds: In addition to E3B conference support, (1) GSAS provides up to $400 in Matching Conference Travel Funds in Years 2-5 for a maximum of two awards, but not Year 1 (HERE), and (2) the Arts and Sciences Graduate Council provides up to $500 in Student Travel Funds for conferences (HERE). This support can be accessed through reimbursement, by submitting an expense report with individual PDFs of all receipts after research has concluded, in consultation with the DAAF, Grants Manager, and Financial Coordinator.

E3B Preliminary Research Funding: In their 1st year, students are expected to develop a preliminary project, from the general concept/design through implementation, the latter often scheduled generally for the summer of their 1st year for those doing fieldwork. Up to $4,000.00 for preliminary research in Years 1-2 (any preliminary research funds granted must be used fully by August 31st of the 2nd year). To apply for these funds, students must submit a written application that specifies the scope of work you will undertake and how it relates to your developing dissertation project, and provide a detailed justified budget and purchasing plan and project timeline. Requirements, eligibility, and use of these funds:

- The application for the funds is to be submitted by April 15 of a student's first year for summer research.
- The proposal must be submitted to a student's Advisor at least two weeks prior to the due date in the department, and it must be signed by the entire Three-Member Advisory Committee prior to submission.
- Proposals can only be submitted if the student has completed their annual committee meeting (and submitted the form) by that date.
- These funds cannot be used for computers or related equipment, or large equipment (this should come out of research grants).
- Funds will be accessed through reimbursement, by submitting an expense report with individual PDFs of all receipts after research has concluded, in consultation with the DAAF, Grants Manager, and Financial Coordinator.

Students must become familiar in advance with the kinds of expenses that can be covered, how to purchase them (i.e. request for the office or Lab Manager to generate a PO, purchase through CU Marketplace), and how to prepare an expense report to get a reimbursement. If established policies are not followed, students may not be eligible for reimbursement. Remember to always keep all your original receipts, as they are essential for reimbursement. Please see the instructions on how to prepare a Concur expense report in the Ph.D. Resources Folder.

3. GENERAL ACADEMIC INFORMATION AT COLUMBIA

REGISTRATION

Information on how to register for courses can be found HERE. Students may register during the pre-registration period. This is the best option for those who know they will be away in the field during the registration period. First-year Ph.D. students must register in the pre-registration period to receive their first stipend payment in a timely manner.

An up-to-date course schedule and call numbers for registration are located HERE. Ph.D. students must not register for more than 20 credits per semester.

Students cannot drop a course without the approval of their advisor and/or committee (once the class has started). To approve dropping a course, a student's advisor should email the DGS, DAAF, and PCM to indicate that you are allowed to drop a specific course.

Students should activate their registration (by registering RU or ER – see Residency and Extended Residence section below), even if they are not certain about their course schedule, to avoid a late registration fee.

RESIDENCY AND EXTENDED RESIDENCE

In addition to registering for individual courses, students in the Graduate School of Arts & Sciences are required to register for an enrollment category. This is done by registering for Residence Units. A full-time student must register for a full Residence Unit ("RU"), Extended Residence ("ER"), or Matriculation & Facilities ("M&F") each semester, whether or not the student is taking courses. If students are unsure about registration status, please speak to the DAAF and PCM.

A minimum length of "Residence status" is required to obtain a graduate degree at Columbia. One Residence Unit (RU) is equal to one semester of full-time registration. Six RUs are required for the E3B Ph.D. degree.

Per GSAS policy, registered (i.e. not on leave) Ph.D. students are expected to be in continuous residence at Columbia during the academic year. Exceptions are made for fieldwork or other academic reasons. Students need approval from their Dissertation Committee to leave campus for fieldwork, and from the Advisor, the DGS, and GSAS to not be on campus for non-academic reasons (which will only be granted under special circumstances).

SUBMITTING DEGREE APPLICATIONS

Ph.D. degree conferrals are held in October, February, and May. Specific dates can be found HERE. Applications must be submitted to the DAAF and PCM who will forward all applications to the GSAS Dissertation Office. The application procedure for dissertation defense set by the dissertation office must be carefully followed. Please work closely with the DAAF and PCM to ensure that your paperwork is processed correctly.

HIGH PERFORMANCE COMPUTING

Because students often require access to computing resources for their dissertation research, E3B has purchased access to Columbia's High Performance Computing (HPC) cluster. To gain access to the cluster, students should contact the DAAF. Information on the HPC can be found HERE.

VERTEBRATE AND HUMAN RESEARCH APPROVALS

Columbia students working with vertebrates or humans, even if they do so completely non-invasively, are responsible for getting IACUC (vertebrates) or IRB (humans) approval. Information on IACUC (HERE) and IRB (HERE). Students must work with their advisors to meet all research requirements. Furthermore, any federal or international requirements for research clearance or import/export of samples are the responsibility of individual students and their advisors.

4. GRADUATE STUDENT LIFE

GRADUATE STUDENT MEETINGS

The Department Chair and the DGS are available to meet with graduate students as issues arise and will schedule periodic group meetings. Students should also meet regularly with their advisors and committee members.

STUDENT-FACULTY REPRESENTATIVE WITHIN E3B

Ph.D. students may elect a representative to attend E3B faculty meetings. They coordinate their own election process. This gives students the opportunity to be aware of decisions, issues, and opportunities discussed during faculty meetings. The representative is there as an observer. If students wish to raise issues, they should first do so at student meetings and with the DGS. The student representative is welcome to Faculty Meetings during which general issues are discussed. The student representative will be asked to leave for any part of the meeting during which confidential items are discussed, including the progress of individual students and financial matters.

GRADUATE RESOURCE ASSOCIATION OF STUDENT SCIENTISTS (GRASS)

E3B has its own graduate association. Information can be found HERE.

ARTS AND SCIENCES GRADUATE COUNCIL (ASGC)

ASGC is a student government organization for GSAS students (HERE). Membership consists of student-elected departmental representatives from the Ph.D. and M.A. programs of the Graduate School of Arts and Sciences. ASGC has two critical roles. First, they facilitate communication between graduate students and administrators. Second, they sponsor social, cultural, and academic events, as well as workshops to improve the quality of life for graduate students. ASGC's events offer students from different departments the chance to socialize and learn from each other. An ASGC Rep from E3B is to be elected every year in May. Candidates can be re-elected. Students should notify the DAAF of the election results, so that the name can be reported to GSAS. Keep in mind that this person is not only representing you, but E3B as well. ASGC will show funding priority for departmental events and student group initiatives to those Ph.D. programs with active ASGC representatives.