

RICE DEPARTMENT OF
BIOSCIENCES

2019 - 2020
ECOLOGY & EVOLUTIONARY
BIOLOGY

**GRADUATE PROGRAM
HANDBOOK**





HANDBOOK OVERVIEW

This handbook summarizes the Ecology & Evolutionary Biology (EEB) Graduate Program policies and procedures and is updated annually. This guide to EEB graduate study contains information about exams, monetary support, required and recommended courses, and regulations and rules specific to this graduate program. It is intended to supplement the General Announcements by providing a more detailed description of the EEB graduate program.

In addition to being in agreement with the policies in this handbook, Ecology & Evolutionary Biology graduate students must also be in agreement with the General Announcements and Code of Conduct. In the case of conflicting information, university-wide regulations take precedence over department-wide regulations, which take precedence over research group-wide regulations. When in doubt, students should seek help first at the graduate program level (graduate program administrator, faculty director of the graduate program, research advisor, and/or department chair) and then at the central administration level (Office of Graduate and Postdoctoral studies).

Please contact Susan Cates, Rachael Eaton, or Tom Miller with suggestions for additions or clarifications.



EEB & BIOSCIENCES FACULTY COMMITTEES

GRADUATE PROGRAM DIRECTOR:

Miller (Spring 2020)
Rudolf (Fall 2019)

GRADUATE STUDENT ADVISORY COMMITTEE:

Miller (Chair)
Rudolf
Saltz

BIOSCIENCES GRADUATE STUDENT GRIEVANCE COMMITTEE:

Braam (Chair)
Dunham
Warmflash

BIOSCIENCES SAFETY AND RESPONSIBLE CONDUCT IN RESEARCH COMMITTEE:

Beason-Abmayr (Chair)
Matthews (Spring 2020)
Nikonowicz
Rudolf

GRADUATE RECRUITMENT AND EVALUATION COMMITTEE:

Miller (Chair)
Beaudrot
Correa
Dunham
Egan
Kohn
Rudolf
Saltz
Siemann

BIOSCIENCES OMBUDSPERSON: Gustin

SCHOOL OF NATURAL SCIENCES OMBUDSPERSON:

Lauren Kapcha



GRADUATE STUDENT HELP MENU

EEB graduate students are welcome to ask any of our BioSciences staff for assistance at any time. This page provides information regarding each staff member's job title.

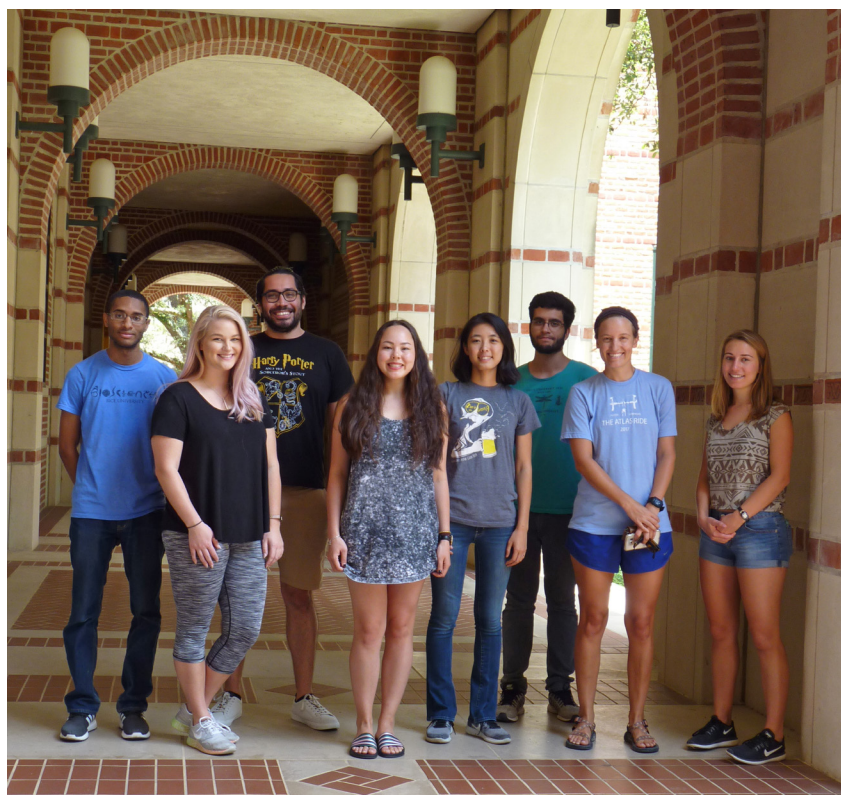
The first help resource for graduate students is Rachael Eaton, the staff graduate program administrator. She is the contact for all graduate student records, stipends, scheduling, travel, reimbursements, GSA and graduate student events, as well as candidacy and defense logistics. Her direct back-up for academic matters such as academic records, university offices and procedures, travel, awards and scholarships is Susan Cates. Additional contacts for administrative support when Rachael is unavailable are George Razzo at the reception desk and Pedro Muniz in W132 GRB Hall. Diane Hatton assists all graduate students who apply for independent funding and/or other scholarships and fellowships, or whose advisors submit federal grants for their funding. Nidia Aguilar and Connie Myrick assist students making lab purchases (please seek instructions from lab-mates first). Juan Sanchez assists with Federal Express packages. Gerald Mixon is the contact for facilities issues such as installation of large equipment, building maintenance and refurbishments.

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Facilities Admin	Gerald Mixon	X4294	gmixon
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Faculty & Project Coordinator	Lisa Evans	X4198	lre2



EEB GRADUATE STUDENT ASSOCIATION (EEB-GSA)

POSITION	NAME	EMAIL (@RICE.EDU)
President	Carsten Grupstra	cgb.grupstra
Treasurer/Secretary	Josh Fowler	jcf3
Activities Co-chair	Jade Tonos Luciano	jade.tonos.luciano
Activities Co-chair	Lauren Howe-Kerr	lih2
GSA Representative	Joey Neale	joseph.neale





BIOSCIENCES AT RICE ECOLOGY AND EVOLUTIONARY BIOLOGY PROGRAM 2018-2019

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EEB STUDENT TIMELINE

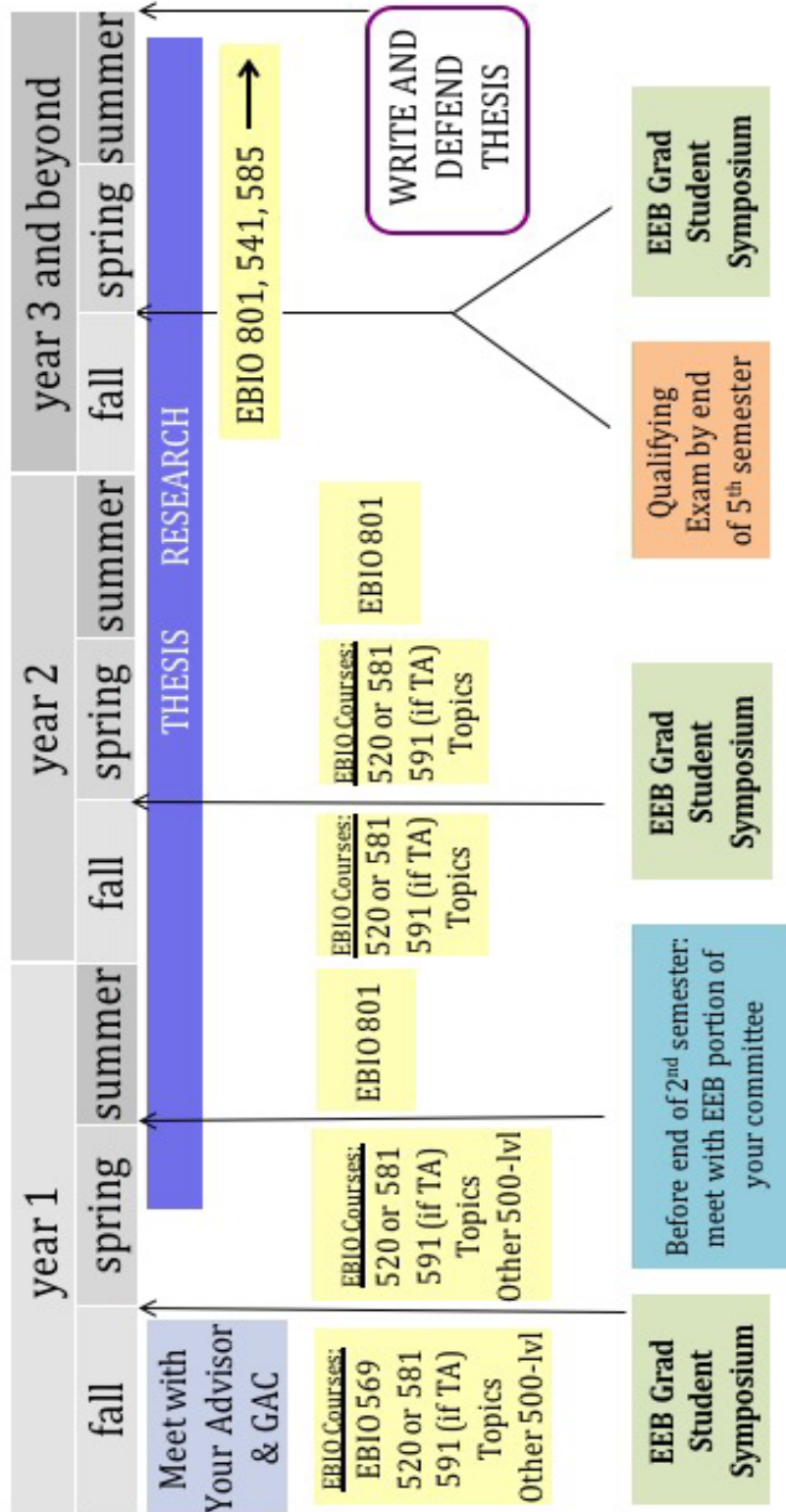




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1. GOALS OF THE GRADUATE PROGRAM

Graduate education provides advanced specialized training beyond the baccalaureate program. The goals of the graduate training provided by the Ecology & Evolutionary Biology graduate program are to guide students as they develop into graduates that:

- Are knowledgeable of past and current research accomplishments and techniques in ecology and evolutionary biology
- Are adept in independent problem solving and critical thinking skills
- Have demonstrated capacity for independent, publishable research
- Can thoughtfully relate their research to that of others in their field
- Possess effective written and oral communication skills
- Assume responsibility for continued professional growth
- Continuously strive to acquire the knowledge and skills needed for scholarly achievement and success in their chosen career

Graduate study requires that students be committed to:

- Assuming responsibility and demonstrating initiative in their research and scholarly activities
- Engaging in active learning, including participating in weekly departmental and graduate student seminars, attending relevant seminars outside of the department, and reading extensively within their chosen field of study
- Initiating and completing innovative and productive research activities
- Improving oral and written communication skills
- Accepting and providing constructive scientific criticism
- Exercising high professional standards in all aspects of work

The Ecology & Evolutionary Biology graduate program faculty members are committed to training and mentoring graduate students to reach their full potential as scientists. Faculty seek to facilitate students' progression towards fulfilling and exciting careers in academia, industry, or government, and to develop their skills as future leaders in science and society.

This handbook outlines requirements for earning an EEB Ph.D. or M.S., and also presents suggestions for beginning a successful career in science. Meeting these requirements is necessary, but not necessarily sufficient; a given advisor and/or thesis committee will often determine additional requirements above and beyond the departmental minimum. For example, some advisors view grant writing as a fundamental part of graduate science education and will require evidence that a student regularly applies for outside funding. It is strongly suggested that, early in the process, a student talks with her/his advisor (or potential advisors) to understand the advisor's philosophy and to understand what will constitute acceptable progress in the advisor's lab. Students should note that there are a number of rules that appear in the Rice University General Announcements that apply to all graduate students but do not appear in this document.



2. DOCTOR OF PHILOSOPHY DEGREE PROGRAM IN ECOLOGY & EVOLUTIONARY BIOLOGY

Most of the formal course studies will be completed in the first year of residence to allow the students to begin thesis research at the end of their second semester at Rice. During the first semester, the student will meet with his or her major advisor (or provisional major advisor) and twice with the GSAC (Graduate Student Advising Committee). The graduate program administrator will schedule this meeting. Together the participants will outline a plan for the student's first year.

Among a student's goals during the first year should be to think deeply, read broadly, discuss ideas frequently with other students and faculty, develop needed lab, field, and computational/theoretical skills, and begin preliminary research, all in service of developing doctoral thesis project ideas. This is an excellent opportunity in which to talk with different faculty members so that a student will have an informed set of choices for composing a committee. Appropriate committee members are those faculty who think what the student is doing is interesting, and have expertise that will be useful in carrying out the project.

Students should have completed coursework in ecology, evolution (or equivalent), mathematics (including calculus), and statistics prior to admission. Deficiencies in these subject areas should be made up during the first year of residence. Students who have not yet taken the equivalents (as determined by the GSAC) of EBIO 325 (Ecology) and EBIO 334 (Evolution) should complete these courses at the first opportunity.

Course requirements:

- EBIO 325 (Ecology) or equivalent
- EBIO 334 (Evolution) or equivalent
- EBIO 569 (Core Course in EEB); must be taken first time offered after student matriculates
- EBIO 561/562/563/568 ("Topics"); 2 semesters of any combination of Topics courses prior to candidacy
- EBIO 591 (Graduate Teaching); 2 semesters (typically 1 semester in both the first and second year)
- EBIO 585/586 (Departmental Seminar); every semester of residence
- EBIO 801 (Graduate Research in EEB); variable-credit course; required after first year of residency

Students must enroll in EBIO 585/586 during all years of residency. Students must complete at least six credit hours in a "Topics" course of their choice (EBIO 561/562/563/668) before the qualifying exam, and students are strongly encouraged to take at least one Topics course per semester during all years of residency. Students must complete two semesters of EBIO 591 during their first four semesters to gain teaching experience; additional teaching experiences are available on an optional basis.



Graduate students must be registered for a minimum of 9 hours each semester (including summer) to receive stipend, tuition waiver, and other subsidies. To avoid complications of dropping below this minimum in the event of schedule changes, **it is recommended that students take a total of 15 credits each semester**. In summer, and after the core course requirements are completed, EEB graduate students should enroll in EBIO 801 Graduate Research. This is a variable-credit course. If students are registered for additional courses, they should adjust the number of EBIO 801 hours accordingly to bring the total number of credit hours to 15.

Students must maintain an overall average GPA of 3.0 (B) to remain in good academic standing. In the case where the average GPA falls below 3.0, the EEB faculty can elect to place the student on academic probation to allow them time to improve their GPA through additional coursework, or to dismiss the student from the program. In the most common case, students receive academic probation for one semester.

3. MASTER OF SCIENCE DEGREE PROGRAM IN ECOLOGY & EVOLUTIONARY BIOLOGY

In addition to the general university requirements, the Master of Science in Ecology & Evolutionary Biology requires the completion and public defense of a thesis embodying the results of an original investigation. The course requirements are the same as those listed for the Doctor of Philosophy degree, except for the number of graduate research hours required to meet the minimum stated in the General Announcements for a thesis Master's degree. EEB students in the Master's degree program are expected to present a public seminar at the annual Graduate Student Symposium.

At least one committee meeting will be held for M.S. students in the second year of residence wherein the student will present his/her thesis outline. Once the committee approves the thesis outline, no other preliminary examination or report is necessary prior to the final oral defense of the written Master's thesis. General Announcements for the Master's degree in EEB can be found at: <https://ga.rice.edu/programs-study/departments-programs/natural-sciences/biosciences/ecology-evolutionary-biology-ms/>.



4. EVALUATION OF PROGRESS IN GRADUATE STUDY

Requirements for Satisfactory Annual Progress

Annual thesis committee meeting

At least one thesis committee meeting is required annually. In the second year, the thesis committee meeting must occur in the fall, prior to December 1. Participation of the external (outside BioSciences) committee member is not required at this point, but this member must be added no later than the committee meeting of the student's third year (see "Committees" section for additional information). It is the student's responsibility to schedule each thesis committee meeting after coordinating with the graduate program administrator and the thesis committee. At the completion of each meeting, the major advisor will, in consultation with the committee members and the student, briefly summarize in writing the student's past progress as well as recommendations and requirements for future progress. This 1-page form should then be submitted to the graduate program administrator for distribution to the student and addition to the student's academic file.

Participation in EEB Graduate Student Symposium

One day in December is set aside for short presentations by EEB graduate students to the whole program (see "EBB Graduate Student Symposium" section for more information). The goals of this day are to:

- a) foster awareness of research currently being conducted in the department,
- b) encourage feedback that will improve research projects and
- c) give students practice in the fundamentally important skill of presenting research via a professional-meeting style talk.

Attendance at departmental seminars (EBIO 585/586)

Attendance at departmental seminars is required except under exceptional circumstances. In addition, participation in afternoon and evening receptions for visiting speakers is an excellent opportunity for students to increase their scientific networks and talk science with leading researchers.

Submit proposals for outside research and stipend funding

Procuring funding for research is a critically important skill for working scientists, and one that is best developed through frequent grant applications. While grant opportunities vary among students (e.g., non-U.S. citizens have fewer options than citizens), students should make annual attempts to procure outside research and stipend funding. The Office of Graduate and Postdoctoral Studies curates a database of grant opportunities: <http://libguides.rice.edu/c.php?g=45066&p=286600>.



Completion of the annual report

The annual report serves as a record of student progress towards the graduate degree. The report will be due (via email) to the graduate program administrator by December 1. Reports must follow the standard formatting guide provided to students by the EEB faculty in early November. The report will include, but is not limited to, the student's research plan, a current CV, goals for the coming year, and a self-assessment that reflects upon progress made towards the previous year's goals.

Evaluation of Annual Progress

During December, a meeting of the EEB faculty will take place to evaluate each student in the graduate program. Each student's annual report and the student's thesis committee report will be available to all faculty before and during discussion. Ratings will be based on student research activity and productivity as well as compliance with the basic requirements for degree progress listed above. It is expected that the majority of students will receive ratings of Satisfactory. Failure to meet any of the basic requirements listed above will result in an automatic Unsatisfactory rating. In cases where the student has met the basic requirements but is deemed to be making insufficient progress, the faculty may either give an Unsatisfactory rating, or dismiss the student from the program, based on a 2/3 majority vote. In cases of unsatisfactory progress, the student will be given a timeline to meet the requirements laid out in the progress evaluation. If the requirements are not met in accordance with the timeline, the student will be dismissed from the program. A helpful checklist of graduate student progress in the EEB program is in the Appendix. Ratings of Unsatisfactory in two consecutive years will lead to automatic dismissal.

Possible ratings for Annual Progress:

- Excellent
- Satisfactory
- Unsatisfactory
- Dismissed



5. THE THESIS COMMITTEE

Students tend to underestimate the value of a committee in designing a timely and feasible thesis. Furthermore, when grant proposals are submitted and upon entry into the job market, students often rely on committee members for letters of reference. Thus, it is important to provide committee members with the opportunity to be familiar and enthusiastic about the topic, design, and execution of the thesis through frequent meetings.

Committees in the Ecology & Evolutionary Biology program must have at least 4 members. Three of the four must be BioSciences faculty members and one of those three will be the student's research advisor; the other two BioSciences members can include professors, associate professors, assistant professors, and faculty research fellows. The fourth member must be an "outside" member, i.e., a faculty at Rice with a primary appointment outside the Department of BioSciences. Huxley Fellows are not eligible to serve on thesis committees. Luay Nakhleh may be used as a BioSciences or "outside" committee member but cannot be both. Students should ask prospective committee members if they would be willing to serve on the committee (this includes attendance at annual committee meetings, reading the thesis, and participating in the defense). Once a student has decided on his/her committee members, he/she should provide this list to the graduate program administrator.

By the end of the second semester, the student must have formed and met with the BioSciences portion of the thesis committee. Students should meet with the thesis committee annually through the duration of their graduate tenure. Students should consult with the graduate program administrator for help scheduling annual committee meetings and finding an available room. Students should bring a blank copy of the Graduate Student Committee Meeting form to each meeting (Appendix). After the committee completes the form, it should be returned to the graduate program administrator to be filed in the student's departmental record. If the committee requires any additional reports, assignments, or courses to broaden knowledge regarding a student's research, the due date for these additional requirements should be written on the Graduate Student Committee Meeting form.

EEB graduate students can have additional committee members from within Rice or from outside universities with approval from the EEB Graduate Student Advisory Committee (GSAC). Officially, the graduate program director appoints each student's committee, but typically the advisor and student suggest committees and the director approves these suggestions. The graduate program director or department chair approves all changes to the committee.

Students commonly identify faculty in Statistics (STAT), Computational and Applied Mathematics (CAAM), Psychology (PSYC), and Earth, Environmental & Planetary Sciences (ESCI) when looking for an "outside" member. It is also helpful to consult the research advisor and other graduate students for ideas. **The "outside" member must be added no later than the committee meeting occurring in the student's third year.**



6. QUALIFYING EXAM AND ADVANCEMENT TO CANDIDACY

Requirements for Advancement to Doctoral Candidacy

1. Completion of all degree requirements and any additional coursework required by the student's major advisor and/or thesis committee, and all University requirements listed in the General Announcements for doctoral candidacy.
2. The qualifying exam to achieve doctoral candidacy (referred to also as the candidacy exam) includes a written thesis project proposal of 8 single-spaced pages, excluding references and figures. The goals of this proposal are a) to ensure that students embark on their thesis research with clearly-formulated questions and a plan, b) to present this plan to the committee in a comprehensive way, c) to develop general written communication and grant-writing skills, and d) to give the student a head start on applying for potential sources of research support. Proposals should include preliminary data. It is strongly suggested that a first draft of the proposal be given to the student's major advisor 60-90 days prior to the expected date of the candidacy exam. By doing so, a student increases the chances of producing a high-quality proposal and should be able to avoid last-minute postponements of the candidacy exam. The proposal must be approved by the student's major advisor prior to distribution to the thesis committee. The committee and the graduate program administrator must receive the proposal no less than 2 weeks prior to the date of the scheduled candidacy exam.
3. An oral candidacy exam must be taken by the end of the 5th semester. The exam includes a) a talk presenting the student's research plan (suggested time: 20-30 minutes); b) questions from, and discussion with, the committee on the student's research plan; and c) questions from the committee on general knowledge of ecology and evolutionary biology at the level of an introductory ecology or evolution course. It is the student's responsibility to schedule the exam after coordinating with the thesis committee. It is highly suggested that the student meet with each of his or her committee members individually, at least two months prior to the scheduled exam, to find out their expectations on what constitutes general knowledge and to get their suggestions for readings. Students should seek scheduling and room reservation help from the graduate program administrator.

Students not passing the exam on the first attempt will have one opportunity to retake the exam; this second attempt must normally occur by the end of the 6th semester. On a student's first exam, the outcome will be either "Pass" or "Retake"; on a student's second exam, the outcome will be either "Pass" or "Fail". Under extraordinary circumstances, a student may petition the GSAC for an extension of the candidacy exam deadline past the 5th semester. The GSAC will make a recommendation to the department chair, who will make the final decision on whether the extension is granted. A rubric for the qualifying exam is available in the Appendix. After passing the qualifying exam, students should fill out the official petition for doctoral candidacy (Appendix). Submit the form to the graduate program administrator, who will supply the supporting documents.

The master's thesis and defense replace the qualifying exam for students who are approved to continue to the doctorate after receiving the M.S. degree from the EEB program.



7. PREPARATION AND FINAL ORAL DEFENSE OF THE DOCTORAL THESIS

Thesis

A Ph.D. thesis has a minimum of three publishable units. Students considering academia should likely aim for more than three publications from their thesis work. It is wise to consult with the major advisor on this topic, as fields of study and labs differ. In addition, it is important to consult with the major advisor on the timing of manuscript submission. While some advisors may be fine with submission after the degree has been awarded, others may make the scheduling of a thesis defense contingent upon submission or publication of at least some of the thesis work.

For the format and deadlines associated with the preparation of the doctoral thesis see the Rice University guidelines. The structure of the thesis (number and format of chapters, etc.) will vary and will be designed in consultation with the major advisor.

Public Oral Defense

The doctoral thesis defense involves a public seminar presentation, followed by an oral examination defending the written thesis. All Ph.D. students must defend the thesis before the end of the 16th semester in residence. The student's advisor must give approval before a student can schedule his/her thesis defense. After approval is given, a student must talk to the graduate program administrator to reserve a room and to announce the defense officially through the Office of Graduate Studies (<https://events.rice.edu/rgs/>). This announcement must be submitted at least two weeks prior to the defense date. University rules also require that a copy of the thesis be available in the department office. The department copy should be sent to the graduate program administrator in PDF format two weeks before the defense date. The student should also send a copy of the thesis to the committee no less than two weeks prior to the date of their oral defense. Students should check with committee members to find out if they prefer a PDF or a printed copy of the thesis.

Students defending a master's thesis must follow the same protocol, but their deadline for publicly announcing the defense is one week prior to the defense date. The master's thesis is due to the committee and the graduate administrator at least one week prior to the defense date.



8. DEPARTMENT SEMINARS – EBIO 585/586

Graduate students are required to register for and attend the departmental seminar series, which constitutes EBIO 585/586. These seminars are usually scheduled on Mondays at 12:00 pm. Ecologists and evolutionary biologists from outside of Rice meet with faculty and share their latest findings through a seminar presentation for all members of the EEB program. During the seminar speaker's visit graduate students can sign up for one of the limited spots to have lunch with the seminar speaker. Students should see the faculty coordinator to sign up for speaker lunches.

9. STUDENT SEMINARS – EBIO 520 AND EBIO 581

Each semester, one of the two EEB graduate student-directed seminar courses, EBIO 520 or EBIO 581, meets once a week (usually on Wednesdays at noon, and lunch is provided). At the start of the semester the EEB students who choose to participate will register for one of the following two courses, after collectively choosing which course will meet that semester. The faculty director of the graduate program is the instructor-of-record, but the course topics, class meetings, and events are student-led and organized. Effective in the 2019-2020 academic year, these courses are graded on a Satisfactory (S)/Unsatisfactory (U) scale.

EBIO 520: STUDENT SEMINAR IN EEB

Student-led presentations of work in progress, research ideas, and topics of research interest. Designed to enhance oral presentation skills and facilitate discussion of research ideas. Topics of discussion range from professional development and CV swaps to presentation practice and web presence, etc.

EBIO 581: EEB OUTREACH DEVELOPMENT

This course is for Rice students interested in developing life science outreach initiatives that target underserved K-12 students in the Houston area. Goals of the course include developing hands-on teaching modules related to Texas science education standards and expanding graduate student teaching experiences beyond the University setting.



10. TEACHING APPOINTMENTS IN ECOLOGY & EVOLUTIONARY BIOLOGY

EBIO 591

During years one and two, students are required to complete two total semesters (one semester per year) of EBIO 591, Graduate Teaching in Ecology & Evolutionary Biology wherein they act as teaching assistants. In EBIO 591, students gain training and experience in teaching by serving as discussion leaders, field course assistants, and graders in sections of undergraduate courses. Prior to teaching, students are required to attend departmental and university training workshops to understand expectations, regulations, and strategies for working with undergraduates. Course assignments for teaching assistants are decided by the EEB graduate program director with input from the department chair, course instructors, students, and advisors. Efforts are made to match students to their preferred courses or those that strengthen their foundational skills.

Additional Teaching Opportunities in BioSciences

EEB graduate students have the opportunity to gain additional teaching experience throughout their tenure at Rice by serving as teaching assistants in the third year and beyond. Teaching assistantships are valuable training opportunities that help prepare students for their future roles as instructors and mentors. Teaching also offers training opportunities broadly applicable for careers in academia and beyond (e.g. leadership, subject mastery, presentation and public speaking skills, establishing goals and expectations, and evaluating others' performance).

EBIO 119

EEB graduate students have the opportunity to serve as lead instructors in EBIO 119. EBIO 119 is a freshman seminar that introduces freshmen to biosciences research at Rice. Freshman students read and discuss scientific literature and tour Rice labs to see facilities and meet faculty and students. The goals of this seminar are to introduce freshmen to the excitement of research while providing interested graduate students a venue to hone their teaching skills. Graduate students serve as course instructors in a mentored, but independent, section format over seven weeks. Student instructors must have the consent and support of their thesis advisors to participate. Graduate student instructors are listed as the instructor-of-record and receive official Rice teaching evaluations.



11. BIOSCIENCES TEACHING AND MENTORING TRAINING PROGRAM

The BioSciences Department offers a set of optional activities for graduate students and postdoctoral researchers interested enhancing and documenting their teaching and mentoring experiences at Rice. Support from the research advisor is required for participation. Progress must be documented on the Record of Training Activities form. [Guidelines and the Record of Training Activities](#) form can be found on the BioSciences website, under Graduate Studies. For additional formal pedagogical training, the Rice Center for Teaching Excellence offers an accredited "Certificate in Teaching and Learning" (<https://cte.rice.edu/grads>) that can be completed with advisor permission

12. 1ST YEAR STUDENT MENTORING PROGRAM

Two to three first-year students are paired with two to three advanced students, usually a second-year student and a more advanced student. These mentoring groups meet for lunch several times during the first year to provide advice and support for classes, rotations, adjusting to graduate school, and life in Houston. In addition to this formal mentoring program, any student experiencing difficulties is encouraged to talk with the EEB graduate program director, the EEB graduate administrator, the department chair, or the department assistant chair, who will endeavor to provide assistance. Additional resources are listed in the handbook chapter entitled Student Resources.

13. INDIVIDUAL DEVELOPMENT PLAN (IDP)

The American Association for the Advancement of Science has an online tool to help young scientists set and manage career goals. The Department of BioSciences recommends that all doctoral students take advantage of these online tools at <http://myidp.sciencecareers.org>.

14. EEB GRADUATE STUDENT SYMPOSIUM

While assessment is not a specific goal of the Graduate Student Symposium, students should be aware that their talks may be a major route by which some faculty (e.g., those not on particular thesis committees) learn about the progress the student is making, and therefore that the talk may play a role in the faculty discussions of annual progress. First year students may choose to talk about previous research (e.g. from a master's thesis done elsewhere) or simply present a talk on a topic of interest and how it relates to a potential thesis. A checklist to help organize the research talk and a document with recommendations for creating an outstanding research presentation are included in the Appendix of this handbook. Faculty provide feedback on student presentations through a standardized evaluation form.



15. FINANCIAL SUPPORT

As an entering student, the Ecology and Evolutionary Biology graduate program will provide a stipend of \$19,875 for 9 months, normally for a period of five years for doctoral students and two years for master's students. Including summer salary support (\$6,625) typically provided by the advisor, the total 12 month stipend is \$26,500. As a recipient of the program graduate stipend, the Office of Graduate and Postdoctoral Studies provides a full tuition waiver, a value of over \$43,220 per year. For students to receive these awards, they must be full-time Rice University Graduate Students (registered for a minimum of 9 credit hours). A student's ongoing financial support (program stipend and associated tuition waiver) each year will depend upon satisfactory performance and reasonable progress toward one's degree.

Fellowships

Many of the students in the BioSciences Department have been awarded independent funding from sources such as the National Science Foundation Graduate Research Fellowship Program, other federal funding sources, private sources, and university fellowships. A student's thesis advisor can help him/her determine the fellowships for which he/she would be most competitive. (Note! The NSF GRFP can only be awarded in the first or second year of study.)

Research Funding

Sources of funding for student research vary across labs. In some cases, the student's research is closely allied with that of the major advisor and is funded via his/her grants. In other cases, students will find it necessary to obtain funding from outside sources for particular projects. Philosophies differ across advisors and it is wise to have an early and frank discussion with one's advisor about these issues.

- When applying for a fellowship or grant, students should consult Diane Hatton, Proposal Preparation Specialist, for specific proposal guidelines.
- If a student is granted a fellowship or research grant, he/she should immediately notify Connie Myrick to assist in required paperwork to make the funds available from the granting agency.

Summer Salary

Nine months of a student's salary in the EEB program comes from either the department, a fellowship, or the research advisor. Summer salary typically comes from the advisor's research or start-up funds, and is dependent on available funds and student progress; as decided by the advisor. All students should discuss summer salary with their research advisors at the beginning of the spring semester, preferably in January. After this meeting, students should notify the graduate program administrator regarding the funding source for summer salary or if they have any concerns about the summer salary.



Bonus Pay

If an EEB graduate student who would otherwise have been supported by a university fellowship gets stipend support that would not otherwise result in an increase in stipend, their pay will be increased above the department stipend level by 10% of the amount saved by the department. Stipend support from an advisor's grant does not count. Summer support does not count because the department does not pay summer support (advisors do). Research support (money not for stipend) does not count for bonus pay.

Example Bonus Pay Calculations

1) Student A gets a fellowship that pays for a semester of stipend during the academic year (one-half the amount of the 9-month department stipend). They will have their academic year stipend increased by $10\% \times (1/2 \text{ of the 9 month stipend})$.

2) Student B gets a fellowship that pays their stipend for the 9-month academic year. The department is saved the full nine-month stipend, so the new stipend will be increased by 10% of the normal 9-month stipend, to a total stipend of 110% of the 9-month academic year stipend.

3) Student C gets an NSF GRFP award that increases their stipend to \$34,000 per year (calendar year - not academic year). The 9-month academic year stipend in this case would be \$25,500. If this amount exceeds 110% of the normal 9-month stipend, then the student will get no additional money from the department. Otherwise, the student will receive the amount from the department required to bring them up to an academic year stipend totaling 110% of the normal 9-month stipend. There might be situations more complex than these but we will attempt to apply the spirit of the policy in each case.

Reimbursements

- **Reimbursements cannot be issued until AFTER a student returns from the trip.**
- Check with Rachael Eaton before expending personal funds on research or travel. Often, these expenses can be borne directly by the department and the student won't have to wait on a reimbursement.
- See the handbook chapter on Graduate Student Travel before planning any travel (conferences, field work, meetings, workshops, collaborations).
- In the case where one can't avoid reimbursements for research expenses, the student must collect all **itemized** receipts, along with the fund that the expense(s) should be charged to and the reason for the expense. The items are required for an expense report in Rice's Concur software. Concur reports are the **ONLY** way that students can be reimbursed.
- Rice is a tax-exempt educational institution in the state of Texas. Be sure no Texas sales tax or Texas hotel tax is charged. Tax exemption forms can be obtained from department staff.
- If Texas sales or hotel taxes are charged, the student is responsible for paying the tax.
- Rice is exempt from hotel tax in some other states, as well. Refer the Graduate Travel Resources & Procedures guide for details.



16. GRADUATE STUDENT TRAVEL

All students should review and follow the guidelines detailed in the Graduate Travel Resources & Procedures guide in the appendix of this handbook.

Students are encouraged to participate in national and international scientific conferences, symposia, and workshops. This participation enables students to present their work to a wide audience, listen to research presentations from a range of speakers, and meet with individuals sharing common research interests. Students also use these meetings to network with future collaborators and employers. To expedite participation, funds may be available to defray the costs of attendance. These funds are available to students who will present their research (oral or poster). Calls for applications for the BioSciences Graduate Student Travel Award are generally issued in April and November each year (Appendix). BioSciences Graduate Student Travel Awards are dispensed depending on the available funds and number of applicants in a given year. Funds can be used for transportation, shared lodging, meals, and registration. If more students apply than funds can support, applications will be prioritized based on seniority, academic standing, time of last travel support, and importance of the meeting for the professional development of the student.

Students should ask their research advisors if they recommend a particular conference. Most conferences have travel awards sponsored by the conference association. Students are expected to apply for conference travel awards and travel awards from other Rice sources such as the Institute of Biosciences & Bioengineering (IBB) and Women in Natural Science (WiNS), in addition to applying for department funds. Failure to apply for external awards could reduce chances of receiving departmental travel funds.

All graduate students must use the BioSciences Graduate Student Travel Authorization Form (Appendix) for research-related travel of any length (e.g. field work, trips to other institutions, conference/workshop). This form is essential for administrative and safety purposes. Forms are due to the graduate program administrator 2 weeks before departure. **It is essential to communicate travel plans with the graduate program administrator before making travel arrangements.** Regardless of the fund source for the expenses, guidelines must be followed. Reviewing guidelines in advance will prevent misunderstandings regarding costs that are reimbursable versus costs that cannot be reimbursed. The graduate program administrator can help students make travel/registration purchases in advance to avoid carrying large expenses on personal accounts and work with students on approved reimbursements. Reimbursements for travel expenses cannot be repaid until the travel is completed.

In general, students are not allowed to use per diem on student travel in the BioSciences Department. If a student's travel that is funded by a research grant or fellowship that requires per diem travel, the student can request an exception to this rule **prior to when the travel occurs.**



17. DEPARTMENT VEHICLES

To drive a department vehicle or a vehicle rented for Rice use, students **MUST**:

- Fill out a Motor Vehicle Record Check (MVR) form that allows Rice to do an investigative consumer report that would reveal any records concerning any driving, criminal history, credit history, and civil record. A copy of the driver's license must also be submitted with this form. Submit these documents to the graduate program administrator who will send it to the Department of Risk Management.
- Take an online defensive driving course and pass. This course should be funded by the research advisor if driving is required for field research or by the department if driving is required for a graduate teaching appointment. Students should speak to the graduate administrator who will set up the course registration through the online portal.

If graduate students get in an accident while driving a department vehicle, they should notify the BioSciences office staff **immediately**.

18. POLICY ON EXTENDED ABSENCE

Students in the EEB graduate program are expected to maintain a regular presence on campus during the academic year and participate in program activities. The faculty recognize that there may be good reasons for students to engage in extended off-campus activities during the academic year, such as field work or visits to collaborating institutions. If a student expects to be absent for more than four weeks of a semester (cumulatively), they are required to notify the Graduate Student Advising Committee (GSAC) with the duration and reasons for extended absence. GSAC will approve extended absences for activities that clearly add value the student's degree program. GSAC approval should be arranged through Rachael Eaton at the beginning of a semester but may also be sought during the semester for cases when unexpected off-campus activities arise. This policy applies to the academic year (Fall and Spring semesters) and not summer.



19. MEDICAL OR PARENTAL LEAVE

Medical leaves and other types of interruptions of study are handled according to the guidelines in the General Announcements (<http://ga.rice.edu/>). If a graduate student temporarily cannot fulfill the duties of his or her appointment due to a medical emergency or the adoption or birth of a child, the student may be temporarily released from academic responsibilities as described below.

A student may apply for short-term medical or parental release at any time during the semester. The application form can be found in the Graduate and Postdoctoral Studies form library (<http://graduate.rice.edu/>). Enrollment and stipend support may be continued for up to six weeks or until the appointment expires (whichever occurs first). Graduate and Postdoctoral Studies requests that short-term parental release requests be submitted four weeks prior to the expected start date. Students taking a voluntary short-term release should make arrangements with their advisor and instructors to complete their academic responsibilities in a timely manner.

Students receiving a short-term medical or parental release may also request a 1-semester postponement of graduate program deadlines that occur in the year following the 6-week leave. For example, upon returning to full-time research following the 6-week leave, a student may request a 1-semester delay in an upcoming EEB Graduate Student Symposium presentation, committee meeting, and/or qualifying exam. A student may request deferral of TA responsibilities for one semester. Such requests should be made in writing via email to the graduate program director and copied to the department chair. In subsequent years, the student would be expected to meet standard program deadlines.

We strongly encourage students who are experiencing a medical issue or anticipating the birth or adoption of a child to talk with the director of graduate studies, the department chair, and/or the assistant department chair to discuss the full range of options that may be available.



20. VACATION POLICY

Arrangements for holidays and other time off must be made in advance in consultation with the advisor. All vacations must be in compliance with university rules and any guidelines from funding agencies.

21. PROCEDURE FOR LAB ACCIDENTS

Graduate Students classified as a Fellow, Teaching Assistant (TA) and/or Research Assistant (RA) injured in the lab at Rice University are covered under worker's compensation. Rice Student Health Center does not provide medical services for workers compensation care. Therefore students injured in the lab should not go to Rice Health Services. The following protocol should be used for all lab injuries.

Emergency

Call Rice University Police Department at 713-348-6000 (X6000, Do not call 911)

- RUPD will dispatch officers to the scene and Rice EMS if needed.
- In case Houston Fire Department trucks or ambulances are needed, RUPD will meet them at the entrance gates and guide vehicles to the location.
- Be sure to tell the RUPD dispatcher of the location, and clearly describe the incident.

If the incident involves chemicals, biological material, or radioactive materials your supervisor or someone in the laboratory should contact Rice Environmental Health and Safety at 713-348-4444 (x4444).

When injury or illness involves a chemical, the Safety Data Sheet (SDS) should accompany the victim to the hospital. A First Report of Injury Form must be filed with the Director of Risk Management, VP for Administration (MS-670). An Accident/Incident Report must be submitted to your Department head and Environmental Health and Safety. The form is available on the Environmental Safety website at <http://safety.rice.edu/>

Administer First Aid, if necessary.

Evacuate the area, if necessary.

Non-Emergency

Minor medical injuries/illness occurring in the workplace should be reported immediately to the injured party's supervisor. The supervisor should fill out a First Report of Injury Form (available from Risk Management <http://riskmanagement.rice.edu/> or Environmental Health and Safety <http://safety.rice.edu/>). Submit this form to either Renee Block at rab@rice.edu or Sonja Edwards at sde2@rice.edu as soon as possible.

If non-emergency medical attention is needed, the student should seek treatment at NOVA Clinic (workers compensation care) located 9563 Main Street. Contact Rice University Risk Management for an appointment. If transportation is not available, a request can be submitted to NOVA to provide transport.



22. TITLE IX SUPPORT

Assault, harassment, discrimination

Rice encourages any student who has experienced an incident of sexual, relationship, or other interpersonal violence, harassment or gender discrimination to seek support. There are many options available on and off campus for graduate students, regardless of whether the perpetrator was a fellow student, a staff or faculty member, or someone not affiliated with the university.

Title IX of the Higher Education Amendments of 1972 prohibits discrimination on the basis of sex in education programs and activities. Students should be aware when seeking support on campus that most employees are required by Title IX to disclose all incidents of non-consensual interpersonal behaviors to Title IX professionals on campus who can support the student. The therapists at the Rice Counseling Center and the doctors at Student Health Services are confidential, meaning that Rice will not be informed about the incident if a student discloses to these staff members and requests confidentiality. Rice prioritizes student privacy and safety, and only shares disclosed information on a need-to-know basis. If you need assistance or simply would like to talk to someone, please call Rice Wellbeing and Counseling Center, which includes Title IX Support: (713) 348-3311.

Additional resources are available at www.safe.rice.edu.



23. DISPUTE RESOLUTION

Petitions

Students may need to file a petition for an exception to academic requirements, regulations, and decisions for a number of reasons, including personal illness, family illness or death, off-campus externships, etc. Under University guidelines, petitions are to be viewed as “unusual, rather than typical.” Students should address questions about the petition process to the Graduate Student Advisory Committee (GSAC). All appeals of decisions should be made at the lowest possible administrative level above that at which the original decision was made. For example, exceptions to a course requirement would be made to the GSAC. An appeal of a decision made by a thesis committee, the GSAC, or a member of the EEB faculty would be to the director of the EEB graduate program or to the department chair. Graduate students may petition for exceptions to academic requirements, regulations, and judgements by following the procedures outlined in the Rice General Announcements (<http://ga.rice.edu/>).

Grievance Process

Problems or conflicts may arise during a student’s graduate education, and students must take responsibility for informing faculty. Depending on the problem, students should feel free to ask for advice from their advisor, members of their thesis committee, the BioSciences or Natural Sciences ombudsperson or a member of the grievance committee (i), or any faculty member with whom they feel comfortable. It is best to move to resolve any conflicts quickly and amicably. However, if attempts to resolve a problem informally are unsuccessful, the following grievance procedure should be followed:

1. The student should submit the grievance in writing to the department chair, who will attempt to resolve the problem.
2. If the student remains unsatisfied, the problem should be presented for resolution to the BioSciences graduate grievance committee, a standing departmental committee (i). If a member of this committee also serves as the student's advisor or on the student's thesis committee, the student may ask the chair for an alternate pro tem committee member. Both the student and the chair should submit a written record of their view to this committee.
3. If the student remains unsatisfied with the resolution of the issue, the problem should be referred to a standing subcommittee designated at the Graduate Council and composed of three faculty members (representing diverse disciplines within the University), one graduate student, and the Dean of Graduate and Postdoctoral Studies. A written report of proceedings at stage two should be presented to the Chair of the Graduate Council, for forwarding to the subcommittee, together with all other written materials generated during the investigation. The decision of this subcommittee will be final.



24. RESPONSIBILITIES AND EXPECTATIONS FOR EEB GRADUATE STUDENTS AND FACULTY ADVISORS

Students and advisors are encouraged to discuss relevant items from the list below periodically. These lab-specific topics do not override program, department or university policies or requirements. Regular discussion around these issues may provide education, increase productivity, and avoid misunderstandings.

1. Research and training

What is the initial project? How flexible is the project direction? How might the project develop or change over the course of training? To what extent are students encouraged or expected to collaborate on additional projects in the lab? How will collaborations outside the lab be navigated? Who, in addition to the advisor, will/may provide research guidance? What additional formal training (via courses or workshops at Rice or elsewhere) is recommended? What software is needed on the student's computer? What training is required to use instruments and equipment in and outside the lab?

2. Frequency and methods of communication

How often will the student and advisor meet in person? Communicate via email? Who is expected to initiate one-on-one meetings? Will these meetings be scheduled or sporadic? What should students bring to meetings (notebooks, data, etc.)? Are there regular lab meetings? What level of participation in lab meeting discussions is expected? When is it acceptable to miss lab meeting?

3. Preparation of progress reviews, candidacy exam, and thesis documents

Does the advisor have suggestions for possible committee members? What level of input will the advisor provide on written documents and presentations? How much time does the advisor need to provide useful feedback? What is the targeted number of iterations? Who else in the lab can provide feedback? Will opportunities for practice talks be provided? What writing and organizational strategies during the course of the project will facilitate preparation of the thesis document?

4. Authorship and publication

What constitutes authorship? How is the order of authors determined on a manuscript or abstract? What is the process for writing manuscripts? In what ways, besides authorship, might a contribution be acknowledged? How is the outlet for publication decided? Is there a specific expectation for a number of manuscripts (published, submitted, and/or in preparation) and the student's authorship position on these manuscripts for graduation? Are there situations (e.g., publications by other groups) that would alter this expectation? Will there be opportunities or expectations for providing feedback on manuscripts of other lab members?

5. Intellectual property

What is the policy for claims on intellectual property and data ownership? When are claims worth considering? How will pending claims impact when the research can be presented in public forums?



6. Notebooks, data, media, strains

What are the laboratory policies for storing, backing up, and sharing notebooks, samples, or other information relevant to ongoing and completed projects?

7. Common laboratory responsibilities

Which duties are shared among lab members? Which are the student's specific responsibilities? What is the procedure for purchasing materials for research?

8. Mentoring experience

Are there opportunities or expectations that the student gain experience mentoring junior lab members (e.g., undergraduate researchers or other visiting students)?

9. Work hours and time management

How many hours per week is the student expected to work in the lab? Does the schedule matter? (E.g., should there be substantial overlap with the hours of the advisor or another lab member?) How should students balance time conducting experiments/research versus reading relevant literature? Are there advantages or disadvantages to doing some work (e.g., computer work, reading, writing) off site? Which outside activities require consultation with the advisor prior to participation? How much advance notice is required when requesting vacation days?

10. Seminars and conferences

Which seminars in addition to department-sponsored seminars should the student attend? Under which conditions can or should a student travel to a conference? (E.g., only if the student is presenting?) Which specific meetings are most relevant? Who covers costs, and what is covered?

11. Professional development and career planning

What career path is the student considering? What arrangements can be made for participation in internships, workshops, teaching, courses, etc. relevant to possible careers without compromising research training? What is the process in the field of interest for academic and non-academic job searches? Are there individuals in the career path of interest who could be useful resources for the student? A student's plans may change during the training period; this is a good conversation to revisit periodically.

*Adapted from text suggested by a TAMU Faculty-Student Agreement Task Force with input from BioSciences faculty, students, and graduates.



25. STUDENT REQUESTS TO SWITCH ADVISORS

Because switching advisors will likely affect progress towards the degree and/or financial support arranged by the previous advisor, students should only consider switching advisors in extraordinary circumstances. However, in rare cases a student may feel that his or her interests could be better served by working with a different advisor. Requests to switch advisors will be handled on a case-by-case basis. The EEB graduate program will endeavor to assist the student; however, the student bears the ultimate responsibility of finding a new advisor.

Procedure:

1. The student should first discuss issues with the current advisor and attempt to resolve any concerns or problems.
2. If the student feels that issues are insurmountable, he or she is encouraged to request guidance from the EEB graduate advising committee members, the BioSciences or Natural Sciences ombudsperson, or the department chair.
3. If the student still wishes to switch advisors, the student should speak with a faculty member whose research interests are in line with his or her interests, who is willing to serve as the student's advisor, and who has funding to support the student.
4. If the student finds another faculty member willing to serve as his or her advisor, the student should submit a petition to the department chair for approval of the change. This petition must have the endorsement of the new advisor.
5. If the department chair approves the switch, the graduate program administrator will process the paperwork required to change advisors.
6. If a student changes advisors prior to achieving candidacy, the new advisor and the student may wish to petition the graduate advising committee to request a short delay in the timeline for completion of the qualifying exam.



26. RESOURCES FOR STUDENTS

Center for Academic and Professional Communication

<https://pwc.rice.edu/center-academic-and-professional-communication>; (713) 348-4932

Help with writing papers and theses, presentation skills through individual consultations and workshops

Center for Teaching Excellence (CTE)

<http://cte.rice.edu/>; (713) 348-2929

Offers Certificate in Teaching and Learning, TEACH workshops, TA training, teaching consultations, reading groups, and various teaching, learning, and technology workshops

Graduate Student Association (GSA)

<http://gsa.rice.edu/>

Hosts community-building events and represents graduate student interests to the University administration; housing and other tips for new graduate students.

Office of Graduate and Postdoctoral Studies (GPS)

<http://graduate.rice.edu/>; (713) 348-4002

Forms, registration information, time boundaries, thesis guidelines, professional development resources, short-term loans, and resources on graduate student life at Rice

Campus resources for students with children

Human Resources Child Care Resources Page

<http://people.rice.edu/benefits-rewards/other/child-care-resources/>

Office of International Students and Scholars (OISS)

<http://oiss.rice.edu/>; (713) 348-6095

Support for international students, including visa assistance and advice for living in Houston

Pride @ Rice

<https://ricepride.rice.edu/>

Resources for students and allies of the LGBTQ+ community

Rice Counseling Center

<https://wellbeing.rice.edu/counselingcenter>; (713) 348-4867

Consultation and individual and group mental health counseling for Rice students

Student Health Services

<http://health.rice.edu/>; (713) 348-4966

Preventive and outpatient medical care for Rice students

Student Wellbeing Office

<https://wellbeing.rice.edu/studentwellbeing>; (713) 348-3311

Advice for students with wellbeing concerns, including tools for managing conflict and academic challenges

Women's Resource Center

<http://women.rice.edu/>

Works to increase awareness of and sensitivity to gender issues



27. EEB GRADUATE STUDENT ASSOCIATION (EEB GSA) CONSTITUTION

PURPOSE

The EEB GSA functions to foster strong professional and personal relationships among students and between students and faculty members. Additionally, the EEB GSA provides a forum for concerns, both professional and personal, about graduate student life.

MEMBERSHIP

A general member shall be any current graduate student (enrolled in a post-bachelor graduate program) who is interested in ecology & evolutionary biology. A voting member shall be any general member who has been accepted into the Ecology & Evolutionary Biology Graduate Program or is advised by a professor in the EEB graduate program and who has not passed the oral thesis defense. An alumni member shall be any graduated general member.

EXECUTIVE COMMITTEE

The EEB GSA will be governed by an Executive Committee elected by voting members. To run for office on the Executive Committee, one must be a voting member in the EEB GSA. Multiple persons may be elected to an office with equal responsibility, as deemed necessary by the Executive Committee at the time of election. In addition, persons may be elected to multiple offices, as deemed necessary by the Executive Committee. Offices and corresponding duties shall be as follows:

President

- Organizes and leads general meetings
- Attends monthly meetings of the BioSciences GSA, faculty, and staff
- Attends joint EEB/BCB GSA event planning meetings
- Plans the annual picnic (Crawfish Boil) in collaboration with BCB and Earth, Environment, and Planetary Science (EEPS) GSAs
- Organizes voting for Graduate Student Selected Seminar Speaker
- Maintains EEB GSA organizational status
- Acts as a liaison between the faculty and students

Departmental GSA Representative

- Acts as the contact person for EEB GSA
- Represents EEB at University GSA meetings and reports back to the program
- Attends monthly meetings of the BioSciences GSA, faculty, and staff, as needed
- Distributes University GSA emails

Secretary/Treasurer

- Manages funds and composes a yearly budget
- Attends monthly meetings of the BioSciences GSA, faculty, and staff
- Conducts fundraising initiatives, when necessary
- Manages budget and payments associated with the annual picnic (Crawfish Boil)
- Records minutes during meetings

**Activity Chair(s)**

- Organizes social events, such as welcome back event for new students
- Attends monthly meetings of the BioSciences GSA, faculty, and staff
- Attends joint EEB/BCB GSA event planning meetings
- Organizes social events in collaboration with the BCB GSA
- Oversees publicity for all EEB GSA events

FACULTY ADVISOR

The faculty advisor shall be any member of the faculty or adjunct faculty of the EEB Graduate Program who is chosen by the Executive Committee. The purpose of the faculty advisor is to provide advice and guidance to the organization, as well as to promote consistency by facilitating the transition of officers from year to year.

BUDGET

The Secretary/Treasurer shall oversee all financial matters related to the EEB GSA. Expenditures of less than \$50 shall be authorized by both the Secretary/Treasurer and the President (or the EEB GSA Representative in the President's absence). Expenditures of greater than \$50 must be agreed upon by a 3/4 vote of the Executive Committee.

VOTING

Only voting members shall be allowed to vote. A passing vote on general matters/officer elections shall be simple majority of members present at the general meeting (early voting shall be permitted by emailing or other official written notification before meeting). Changes or amendments to the constitution shall require advance notification of the proposed amendments at least one week prior to the general meeting and require a 3/4 majority of the members present at the general meeting (early voting shall be permitted by emailing or other official written notification before meeting).

ELECTIONS

At least one general meeting shall be held per year to elect new officers; elections for all offices shall be held no less than three weeks before the last day of exams of spring semester. Officer turnover will occur on the last day of the spring semester. Before the voting of each office occurs, the current President shall 1) read officer duties from the constitution, 2) ask for nominations and allow all nominees to accept or reject nominations, 3) distribute a ballot via Google forms or other program to all voting members. The President shall then announce new officers.

ANTI-HAZING POLICY

This organization shall not engage in any form of hazing, as defined by the Code of Student Conduct and any other applicable Rice University rules and regulations.

NON-DISCRIMINATION POLICY

This organization shall not discriminate against individuals on the basis of race, color, religion, sex, sexual orientation, gender identity, national or ethnic origin, ancestry, age disability, or veteran status.

EEB GSA CONSTITUTION APPROVED - JULY 18, 2018



28. GRADUATE STUDENT AWARDS

Ecology and Evolutionary Biology Outstanding Thesis Award

2015: Onja Razafindratsima

2018: Michelle Sneck

2019: Patrick Clay and Emily Schultz

Ecology and Evolutionary Biology Best Graduate Student Paper

2015: Christopher Dibble

2017: Brad Ochocki

2018: Emily Schultz and Shannon Carter

2019: Patrick Clay

Ecology and Evolutionary Biology Peter Savvas Nelson Award

2015: Patrick Clay

2016: Sreyasi Biswas

2017: Jade Tonos Luciano

2018: Marion Donald

Ecology and Evolutionary Biology Outstanding Student Seminar

2015: Brad Ochocki

2016: Shannon Carter

2017: Emily Schultz

2018: Patrick Clay

2019: Marion Donald and Eric Wice

Ecology and Evolutionary Biology Joe Davies Prize for Outstanding Service as a Teaching Assistant

2015: Shannon Carter and Eslam Elshahat

2016: Lin-Yi Zhang and Marion Donald

2017: Andrea Drager and Mattheau Comerford

2018: Emily Schultz and Patrick Clay

BioSciences Leadership Award

2015: Kim Gonzalez and Shannon Carter

2016: Brad Ochocki

2017: Amy Prater and Michelle Sneck

2018: Patrick Clay and Razan Alnahhas



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Registration Worksheet for 1st Year EEB Graduate Students

First year students in the Ecology & Evolutionary Biology Graduate Program register for the course EBIO 801 Graduate Research with varying credit hours from 1 hour to 10 hours, depending on their course load. However, the total number of hours for which they register usually does not exceed 15 credit hours. The Department of BioSciences recommends that graduate students enroll in 15 credit hours total each semester, which is equivalent to working 40 – 45 hours per week on courses, scholarly reading, and research. **Graduate students must register for at least 9 credit hours to receive a stipend.**

Students should consult with their research advisor to find out if there are specific courses they recommend, given your research specialization. Students who are taking a heavy load of lecture courses should consider registering for just 1 - 3 credit hours of EBIO 801. If you only have 3 hours of lecture courses, register for 9 - 12 hours of EBIO 801. Remember to register for EBIO 591 in the semester you have a teaching assignment. Here's an example first year registration that includes common courses – EBIO 569 and EBIO 585 are mandatory, but EBIO 569 may only be offered every other year.

Rice University uses a student database named Esther at esther.rice.edu. The initial login requires you to enter your Student ID and set up a pin (this site is not accessed by your Rice NetID).

COURSE	NAME	CREDITS
EBIO 520	STUDENT SEMINAR IN EEB	1
EBIO 541	RESEARCH SEMINAR (advisor's section)	1
EBIO 563	TOPICS IN ECOLOGY	1
EBIO 569	CORE COURSE IN ECOLOGY & EVOL	3
EBIO 585	GRAD SEM IN ECOL & EVOL BIOL	1
EBIO 801	EEB GRADUATE RESEARCH (advisor's section)	8

Your research advisor is your first resource if you have additional questions, but you should also feel free to consult the graduate program administrator, particularly for administrative questions or questions about Esther.



BioSciences at Rice EEB Program

Graduate Student Progress Checklist

During annual progress reviews in December, EEB graduate students will be evaluated on the following criteria:

All Students will have:

- ☐ Completed an annual written progress report and submitted to thesis committee (except 1st year students)
- ☐ Had a thesis committee meeting in past academic year (except 1st year students)
- ☐ Presented talk at the EEB Graduate Student Symposium in December
- ☐ Regularly attended the BioSciences/EEB seminars
- ☐ Taken 2 topics courses (e.g. EBIO 561, EBIO 562, EBIO 563, or EBIO 568) before candidacy

1st year students will have:

- ☐ Found non-EEB courses to fill any gaps in education/preparation
- ☐ Made progress toward selecting a thesis topic; at least one project should involve the student in the conceptual development of the idea
- ☐ Demonstrated familiarity with the literature related to student's intended thesis topic
- ☐ Considered potential members of thesis committee
- ☐ Begun data collection, OR demonstrated sufficient progress to ensure that they will be able to collect potentially publishable data, no later than the beginning of fall semester of the second year
- ☐ Written a draft of the thesis abstract
- ☐ Made attempts to obtain outside funding (e.g., NSF GRFP if eligible)
- ☐ Earned a B or better in EBIO 569 Core Course (if offered this year)
- ☐ Met with Graduate Student Advising Committee (GSAC)
- ☐ Read the EEB Handbook

2nd year students will have:

- ☐ Collected data that is potentially publishable
- ☐ Formed a thesis committee including at least 3 EEB faculty and one Rice faculty member outside BioSciences
- ☐ A firm thesis topic and a tentative outline of what the sub-topics will be that will form the chapters of the thesis
- ☐ Made up any coursework deficiencies
- ☐ Made attempts to obtain outside funding (e.g., NSF GRFP if eligible)
- ☐ Fulfilled teaching requirements or established plans to fulfill requirements
- ☐ Earned a B or better in EBIO 569 Core Course (if offered this year but not during student's first year)

3rd year students will have:

- ☐ Collected data that will be publishable in a reputable peer-reviewed journal
- ☐ Attended at least one national meeting
- ☐ Passed the qualifying exam and filed the formal petition for candidacy through Graduate & Postdoctoral Studies
- ☐ Made attempts to obtain outside funding (e.g., NSF or other grants/fellowships)
- ☐ A firm thesis outline with clear descriptions of chapters and a plan showing how these chapters will translate into publications

4th year students will have:

- ☐ Thesis chapters that are either completed or currently in progress
- ☐ At least one thesis chapter has been submitted for publication
- ☐ Presented at a national meeting
- ☐ A time table for the completion of the thesis and degree
- ☐ Made attempts to obtain outside funding (e.g., NSF or other grants/fellowships)

5th and 6th year students will have:

- ☐ Demonstrated they are on track to produce a thesis with at least 3 first- or sole-authored papers publishable in peer-reviewed journals
- ☐ Presented a talk at a national meeting
- ☐ Made progress lining up postdoctoral opportunities (whether in academia, agencies, private sector)
- ☐ Developed plan for future, post PhD



EEB GRADUATE STUDENT ANNUAL COMMITTEE MEETING

NAME OF STUDENT:

DATE OF MEETING:

MEMBERS OF COMMITTEE:

ADVISOR:

STUDENT'S YEAR IN PROGRAM:

ACTION OR DISPOSITION:

PASS

CONDITIONAL PASS

ADDITIONAL MEETING REQUIRED

SUMMARY:

ADDITIONAL REQUIREMENTS OR ASSIGNMENTS and DEADLINE(S):

MILESTONES TO BE MET BEFORE NEXT COMMITTEE MEETING:

RESEARCH ADVISOR SIGNATURE

Qualifying Exam Evaluation
Ecology & Evolutionary Biology Graduate Program, BioSciences Dept., Rice University

Student: _____ Date of exam: _____

*Please review guidelines for evaluation on reverse and provide comments as needed
 (comments required for "unsatisfactory" components)*

	excellent	satisfactory	unsatisfactory
Specific Aims	☐	☐	☐
<i>Comments:</i>			
Background and Significance	☐	☐	☐
<i>Comments:</i>			
Preliminary Results	☐	☐	☐
<i>Comments:</i>			
Research Plan	☐	☐	☐
<i>Comments:</i>			
Novelty	☐	☐	☐
<i>Comments:</i>			
Document text	☐	☐	☐
<i>Comments:</i>			
Presentation	☐	☐	☐
<i>Comments:</i>			
Response to questions	☐	☐	☐
<i>Comments:</i>			

Summary evaluation

I have read this exam, and recommend: ☐ pass qualifying exam
☐ conditional pass (see comments above and in summary document from committee chair)
☐ fail qualifying exam

Committee member: _____ signature _____

Guidelines for Evaluation of EEB Qualifying Exam

<i>Specific Aims</i>	Excellent:	Each aim is a logical test of the hypothesis or has clear rationale at its foundation. Hypotheses are soundly based predictions of biological importance and address scientific concepts rather than experimental outcomes.
	Satisfactory:	Aims are clearly stated; a case is made for the work's rationale
	Unsatisfactory:	Aims are not clearly stated; little context or justification is provided
<i>Background and Significance</i>	Excellent:	Identifies all relevant results and techniques from the literature, and synthesizes them in a thoughtful discussion
	Satisfactory:	Discusses major previous works and places them in context for the present project
	Unsatisfactory:	Fails to cite or assimilate previous work
<i>Preliminary Results</i>	Excellent:	Extensive preliminary results with thoughtful discussion
	Satisfactory:	Some preliminary results that are adequately described
	Unsatisfactory:	Limited preliminary results or low quality of discussion
<i>Research Plan</i>	Excellent:	Research plan would be competitive for funding with clear rationales, experimental plans, controls, interpretation of expected results, and alternative approaches
	Satisfactory:	Research plan clear; experiments are technically sound and feasible
	Unsatisfactory:	Research plan unclear, lacks description of controls or rationale, or includes inappropriate level of detail
<i>Novelty</i>	Excellent:	Original research that demonstrates distinct creativity in the question or experimental design
	Satisfactory:	Describes a novel problem appropriate for a Ph.D.
	Unsatisfactory:	Incremental approach unlikely to yield publishable findings
<i>Document text</i>	Excellent:	Good organization, fluent prose, and few grammatical errors; full compliance with formatting guidelines
	Satisfactory:	Decent organization, coherent prose, and limited grammatical errors; full compliance with formatting guidelines
	Unsatisfactory:	Poor organization, incoherent prose, and/or numerous grammatical errors; not in compliance with formatting guidelines
<i>Presentation</i>	Excellent:	Engaging, highly polished presentation with well crafted slides that illustrate key results in the project and clearly describe future directions
	Satisfactory:	Professional presentation on par with a solid conference talk; includes a coherent project narrative and future plans
	Unsatisfactory:	Too much or too little detail; unclear about project goals and direction; incoherent or illegible slides; read from slides
<i>Replies to questions</i>	Excellent:	Complete answers that demonstrate a deep understanding of the discipline that extends beyond the contents of the document
	Satisfactory:	Competent answers that illustrate a facility with the issues and techniques immediately relevant to the thesis project
	Unsatisfactory:	Answers reveal a limited familiarity with the thesis project or its context

Candidacy for the Doctoral degree cannot be approved until the applicant has completed all course requirements, all qualifying or preliminary examinations or department equivalent, and any foreign language requirements.

- RETURN TO DEPARTMENT COORDINATOR



BioSciences at Rice
Graduate Student Travel Award Application

STUDENT NAME: _____ **STUDENT ID#** _____

Name of Conference or Other Purpose of Travel:

Presentation Type (Circle One): POSTER ORAL

Presentation Title (abstract should also be attached to this application form):

Location of Conference: _____

Dates of Travel: _____

Estimated Expenses for this Travel (In the accompanying column, please note the estimated source & amount of funds to cover expenses beyond potential BioSciences travel award)

Expense	Estimated Amount (\$)	Other Travel Award, PI Fund, or Personal Funds?
Transportation (flight, other travel)		
Shared Lodging		
Registration		
Meals		
Total		

Source and amount of other meeting/travel awards applied for:

Faculty Advisor Signature: _____

Submit completed application materials (Application form, CV, presentation abstract) to the Graduate Program Administrator. Electronic submissions permitted.

Office Use

Submission Date:	Submitted to Dept. Chair:	Approval Date:	Amount Awarded:	Student Notified:



BioSciences Graduate Student Pre-Travel Authorization Form

If you are planning any travel for a Rice- or BioSciences-related reason, you should talk to the graduate program administrator (Rachael Eaton; re11@rice.edu) and complete the following form at least 2 weeks **IN ADVANCE**. Electronic or paper copies accepted.

Student Name: _____

Emergency Contact Information (partner/parent/family member/friend): Name, phone, email.

What is the best way to reach you during this travel, if essential/emergency?

Copy/paste additional entries for 2+ travel locations, as needed

First Travel Location: _____

Travel purpose: _____

Dates of travel to/from this location: _____

Hotel/lodging/host name: _____

Address (city, state, country): _____

Host/colleague email, in case of emergency: _____

Will you request a travel advance?

Yes

No

Will you request reimbursements?

Yes

No

Reimbursements

Check with Rachael before using personal funds on travel; BioSciences may be able to pay up-front, minimizing reimbursement.

If seeking reimbursements, bring Rachael all **itemized** receipts, along with the fund to use for expense(s) and the reason for the expense. A credit card slip alone is not sufficient; you may need to specifically **request an itemized receipt** from a vendor/restaurant.

Rice is a tax-exempt institution in Texas. We cannot reimburse Texas sales tax or Texas hotel tax; try to ensure none is charged. See BioSciences staff for tax exemption forms that you can take while traveling.

Has your thesis advisor approved all of the travel listed here?

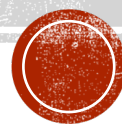
Advisor Signature (or email approval to re11@rice.edu): _____

This completed pre-trip authorization form is important for safety and reimbursement purposes. Failure to complete this form in advance and secure appropriate expense documentation may result in lack of reimbursement for out-of-pocket expenses.

Office Use

Submission Date:	Approval Date:	Expense Reports Submitted:

GRAD STUDENT TRAVEL: RESOURCES & PROCEDURES



**See your graduate program administrator
for questions**

UNIVERSITY TRAVEL POLICY

- University Policy #806
 - Travel, Business Meeting, and Entertainment Policy
- <https://policy.rice.edu/806>
- BioSciences has additional policies and procedures related to student travel
- Funding agencies have their own policies regarding whether and how grant funds can support travel



THE GRAD PROGRAM ADMINISTRATOR IS YOUR RESOURCE FOR...

- Travel award application
 - Travel award spending (BIOS, IBB, WiNS, etc.)
 - Booking flights
 - Hotel reservations
 - Conference/workshop registration
 - Preparing expense reports in Concur
 - Reimbursements
 - Any other travel questions
- **Essential to communicate travel plans IN ADVANCE!**
 - **Rice will NOT reimburse you for travel purchases on your own credit/debit cards until AFTER you return**
 - **If you purchase travel/registration charges on your owns cards, you are responsible for those costs on your personal card until AFTER the trip**
 - **Let the Grad Admin use a Rice credit card (p-card) to purchase your travel needs in advance**



PRE-TRAVEL AUTHORIZATION FORM

Form required in ADVANCE for all research, conference, or other Rice-related travel

Student safety is paramount

Provide contact info and location info (how can we reach you in case of emergency)



BioSciences Graduate Student Pre-Travel Authorization Form

If you are planning any travel for a Rice- or BioSciences-related reason, you should talk to the graduate program administrator (Rachael Eaton: ga11@rice.edu) and complete the following form at least 2 weeks IN ADVANCE. Electronic or paper copies accepted.

Student Name: _____

Emergency Contact Information (partner/parent/family member/friend): Name, phone, email. _____

What is the best way to reach you during this travel, if essential/emergency? _____

Copy/paste additional entries for 2+ travel locations, as needed

First Travel Location: _____

Travel purpose: _____

Dates of travel to/from this location: _____

Hotel/lodging/host name: _____

Address (city, state, country): _____

Host/colleague email, in case of emergency: _____

Will you request a travel advance? ☐ Yes ☐ No

Will you request reimbursements? ☐ Yes ☐ No

Reimbursements

Check with Rachael before using personal funds on travel. BioSciences may be able to pay up-front, reimbursing reimbursement.

If seeking reimbursements, bring Rachael all itemized receipts, along with the fund to use for expense(s) and the reason for the expense. A credit card slip alone is not sufficient; you may need to specifically request an itemized receipt from a vendor/restaurant. Reimbursement deadline is 30 days after travel ends. Rice is a tax-exempt institution in Texas. We cannot reimburse Texas sales tax or Texas hotel tax; try to ensure none is charged. See BioSciences staff for tax exemption forms that you can take while traveling.

Has your thesis advisor approved all of the travel listed here?

Advisor Signature (or email approval to ga11@rice.edu): _____

This completed pre-trip authorization form is important for safety and reimbursement purposes. Failure to complete this form in advance and secure appropriate expense documentation may result in lack of reimbursement for out-of-pocket expenses.

Office Use		
Submission Date:	Approval Date:	Expense Reports Submitted:



BIOSCIENCES TRAVEL AWARDS

- Support for grad students presenting at conferences/workshops
- **Two deadlines per year: APRIL 1 & NOVEMBER 1**
- Limited funds annually; 1 award/student/year
 - Sometimes possible to receive awards across multiple years
- Must also seek additional travel funding to be eligible for BIOS award (IBB, WiNS, conference-specific travel funds)
- Submit award application (in handbook) with CV and abstract
- Printed or electronic submissions accepted



BioSciences at Rice Graduate Student Travel Award Application

STUDENT NAME: _____ STUDENT ID# _____

Name of Conference or Other Purpose of Travel: _____

Presentation Type (Circle One): POSTER ORAL

Presentation Title (abstract should also be attached to this application form): _____

Location of Conference: _____

Dates of Travel: _____

Estimated Expenses for this Travel (In the accompanying column, please note the estimated source & amount of funds to cover expenses beyond potential BioSciences travel award)

Expense	Estimated Amount (\$)	Other Travel Award, PI Fund, or Personal Funds?
Transportation (flight, other travel)		
Shared Lodging		
Registration		
Meals		
Total		

Source and amount of other meeting/travel awards applied for: _____

Faculty Advisor Signature: _____

Submit completed application materials (Application form, CV, presentation abstract) to the Graduate Program Administrator. Electronic submissions permitted.

Office Use				
Submission Date:	Submitted to Dept. Chair:	Approval Date:	Amount Awarded:	Student Notified:



AIRFARE POLICIES

- **Grad Admin can book your flight on a p-card so you do not have to carry the charge for months**
- Rice policy requires travelers to fly economy class (not 1st or business)
- For personal travel before/after your business travel, there are extra requirements. You **MUST** discuss with the Grad Admin to make flight arrangements
- International travel requires use of a **U.S. airline** if federal funds will pay for the ticket.



RICE P-CARD FOR PRE-TRAVEL EXPENSES

- Conference/registration fees
- Abstract submission fees
- Airfare
- Lodging (including deposits)
- Airport parking
- Miscellaneous (e.g. poster printing)



REIMBURSEMENTS

- Some expenses you incur (e.g. local transportation, meals) may be reimbursed by available travel funds (awards or PI funds)
- Reimbursements processed through Concur software expense report
- Work with Grad Admin to prepare your report
- Expense reports **due 30 days after return from travel**
- No per diem for grad students, unless grant specifies— See Grad Admin
- Alcohol and some other expenses not available for reimbursement
- Conference flyer or program/agenda should be uploaded as a supplemental receipt in expense report
- DO NOT SUBMIT REPORT UNTIL GRAD ADMIN REVIEWS AND APPROVES**



RECEIPTS

- ITEMIZED RECEIPTS required**
- ASK FOR ITEMIZED RECEIPT IF NOT GIVEN TO YOU**
- Credit card receipt alone will not work**

CARRABBA'S
ITALIAN GRILL

Oran, UT
(801) 765-1222
0008b Table 31 Party 45
ALYSSA T SvrDcs: 1 11:45a 02/27/15

Cold Beverage	2.80
Cold Beverage	2.80
Lunch Small Salmon	12.90
Lunch Salmon	14.50
Lunch Cup Chix Cng/w	2.00
Lunch Fettuccine Carrabba	10.90
Lunch Small Salmon	12.90
Lunch Strawberry Salad	11.50
Lunch Sa Chix Bryan	12.70
Lunch House Salad Add On	2.00
Dessert Rosa	7.20
Dessert Rosa	7.20
Sono di Cioccolata	7.90
Sono di Cioccolata	7.90

We value your opinion.
Go to www.TellCarrabbas.com within
the next 3 days and tell us about
your dining experience.

Enter for your chance to win a
\$1000 Grand Prize
or 1 of 80 \$50 Gift Cards!
Winners are drawn monthly.

ENTER SURVEY CODE:
516201-540007-215019

NO PURCHASE NECESSARY.
See Official Rules at
www.TellCarrabbas.com for details.
Must be legal US resident 18 or
older. Void where prohib'ted. Ends
12/31/15

Sub Total: 115.20
TAX : 5.04
02/27 12:52p **TOTAL: 124.24**

ITEMIZED RECEIPT

CREDIT CARD RECEIPT

0008
Server: ALYSSA T Rec: 17
02/27/15 12:54, Served T: 31 Term: 2

CARRABBA'S ITALIAN GRILL
685 University Parkway
Oran, UT 84097
(801) 765-1222
MERCHANT #:

CARD TYPE ACCOUNT NUMBER
MASTECARD XXXXXXXXXXXXXXX5537
00 TRANSACTION APPROVED
AUTHORIZATION #: 030736
Reference: 0227010000008
TRANS TYPE: Credit Card SALE

CHECK: 124.24
TIP: 20.00
TOTAL: 144.24

x

Duplicate Copy
CARDHOLDER WILL PAY CARD ISSUER ABOVE
AMOUNT PURSUANT TO CARDHOLDER AGREEMENT



TAX EXEMPTION

- Rice is exempt from sales tax in Texas

- Get forms from Grad Admin if traveling in Texas or these states

TX EXEMPT #
74-1109620

TEXAS SALES AND USE TAX EXEMPTION CERTIFICATION

Name of purchaser (Name of business)
William Marsh Rice University
Address (Street number, Box or PO number)
6100 Main Street, MS-70
Houston, TX 77005
Phone Number (713) 419-0900

I, the purchaser named above, certify an exemption from payment of sales and use taxes for the purchase of taxable items described below or on the attached order or invoice(s):

Order number: _____ City, State, ZIP code: _____

Description of items to be purchased or on the attached order or invoice:
ANY AND ALL

Purchaser claims this exemption for the following reason:
We are an educational institution and qualify for the Exemption under Rule 5-222 paragraph (b), Section (2) of the Texas Tax Code.

I understand that I will be liable for payment of sales and use taxes which may become due for failure to comply with the provisions of the Tax Code. I understand that, under the Tax Code, I am liable for the tax and I am not entitled to a refund of the tax. I understand that I am liable for the tax and I am not entitled to a refund of the tax. I understand that I am liable for the tax and I am not entitled to a refund of the tax.

Signature: *James R. Smith* Title: *University Manager* Date: *11/1/2009*

THIS CERTIFICATE DOES NOT REQUIRE A NUMBER TO BE VALUED.
Sales and the Tax "Exemption Number" or "Tax Exemption Number" do not exist.

This certificate should be submitted to the supplier. Do not send this completed certificate to the Comptroller of Public Accounts.

Texas Hotel Occupancy Tax Exemption Certificate

Provide completed certificate to hotel to claim exemption from hotel tax. Hotel operators should request a photo ID, business card or other document to verify a guest's affiliation with the exempt entity. Employees of exempt entities traveling on official business can also be exempt. For nonemployees to be exempt, the exempt entity must provide a completed certificate and pay the hotel with its hotel tax, except entity check, credit card or direct billing. This certificate does not need a number to be valid.

Name of exempt entity: William Marsh Rice University
Address (Street number, Box or PO number): 6100 Main Street MS-70
City, State, ZIP code: Houston, TX 77005
Educational SBT (a) (2)

Reason for exemption: I declare that I am an employee of this hotel or official business representative for the exempt organization named above and that all information shown on this document is true and correct. I further understand that it is a criminal offense to issue an exemption certificate to a hotel that I know will be used to a extent that does not qualify for the exemption listed in the hotel occupancy tax and other laws. The offense may range from a Class C misdemeanor to a felony of the second degree.

Hotel name (Type in full): _____ Date: _____
Hotel address: _____ State: _____

Exemption claimed
Check the box for the exemption claimed. See Rule 5.101, Deductions, Exemptions, and Exemption Certificates.

☐ United States Federal Agent or Foreign Diplomat. Details of this exemption category are on back of form. This category is exempt from state and local hotel tax.

☐ Texas State Government Officials and Employees. (An individual must present a Valid Tax Exemption Photo ID Card). Details of this exemption category are on back of form. This category is exempt from state and local hotel tax. Note: State agencies and city, county or other local government entities are officials or employees are not exempt from state or local hotel tax, even when traveling on official business.

☐ Charitable Entities. (Comptroller's review of exemption required). Details of this exemption category are on back of form. This category is exempt from state hotel tax, but not local hotel tax.

☒ Educational Entities. Details of this exemption category are on back of form. This category is exempt from state hotel tax, but not local hotel tax.

☐ Religious Entities. (Comptroller's review of exemption required). Details of this exemption category are on back of form. This category is exempt from state hotel tax, but not local hotel tax.

☐ Exempt by Other Federal or State Law. Details of this exemption category are on back of form. This category is exempt from state and local hotel tax.

Permanent Resident Exemption (30 consecutive days): An exemption certificate is not required for the permanent resident exemption. A permanent resident is exempt for the day the guest has given written notice or receives a notice for at least 30 consecutive days and the guest stays for 30 consecutive days, beginning on the reservation date. Otherwise, a permanent resident is exempt on the 30th consecutive day of the stay, and is entitled to a tax refund on the last 30 days. Any transaction in the resident's right to occupy a hotel within the exemption. Permanent residents are exempt from state and local hotel tax.

Hotels should keep all records, including completed exemption certificates, for four years.

Do NOT send this form to the Comptroller of Public Accounts.

- Rice is exempt from state hotel tax in

- CT, FL, IN
- KS, KY, MI
- NJ, OH, TN
- UT, WI, WY

CONCUR — EXPENSE REPORTING

- Concur is the software Rice uses to report expenses and process reimbursements for student expenses (travel & research)

SAP Concur 

- Set-up your Concur profile here: <https://www.concursolutions.com/nui/signin>
- Username field: netid@rice.edu; click "Forgot Password"
- Enter netID when prompted, then click 'Send me an email with a link to reset my password'. Submit.
- Confirm you are requesting an email resetting your password. Return to the login page using the link. Check email for a link to reset your password.
- Enter a password. Passwords are case sensitive. Enter a password hint. Submit.

ADD EXPENSE DELEGATES

The screenshot shows the SAP Concur interface. On the left is a navigation menu with categories: 'Your Information' (Personal Information, Company Information, Contact Information, Email Addresses, Emergency Contact, Credit Cards), 'Travel Settings' (Travel Preferences, International Travel, Frequent-Traveler Programs, Assistants/Arrangers), and 'Expense Settings' (Expense Information, Bank Information, Expense Delegates, Expense Preferences, Expense Approvers, Favorite Attendees). An orange arrow points from the 'Expense Delegates' link in the menu to the 'Expense Delegates' section on the main page. The main page has a header with 'SAP Concur' and tabs for 'Travel', 'Expense', and 'App Center'. Below the header is a sub-header with 'Profile', 'Personal Information', 'Change Password', 'System Settings', 'Concur Mobile Registration', and 'Travel Vacation Reassignment'. The 'Expense Delegates' section has a sub-header with 'Delegates' and 'Delegate For' tabs, and buttons for 'Add', 'Save', and 'Delete'. Below this is a table with columns: 'Name', 'Can Prepare', 'Can Submit Reports', and 'Can View Receipts'. An orange arrow points from the 'Add' button to a text box that says 'Add the Graduate Program Administrator as an Expense Delegate'. A red circle with a white 'X' is in the bottom right corner.

Add the Graduate Program Administrator as an Expense Delegate

DEFAULT APPROVER — CONNIE MYRICK

The screenshot shows the SAP Concur interface. On the left is a navigation menu with categories: 'Your Information' (Personal Information, Company Information, Contact Information, Email Addresses, Emergency Contact, Credit Cards), 'Travel Settings' (Travel Preferences, International Travel, Frequent-Traveler Programs, Assistants/Arrangers), and 'Expense Settings' (Expense Information, Bank Information, Expense Delegates, Expense Preferences, Expense Approvers). An orange arrow points from the 'Expense Approvers' link in the menu to the 'Expense Approvers' section on the main page. The main page has a header with 'SAP Concur' and tabs for 'Travel', 'Expense', and 'App Center'. Below the header is a sub-header with 'Profile', 'Personal Information', 'Change Password', 'System Settings', and 'Concur Mobile Registration'. The 'Expense Approvers' section has a sub-header with 'Expense Approvers' and buttons for 'Save' and 'Cancel'. Below this is a form with two sections: 'Default approver for your expense reports.' and 'Default approver for your cash advance requests.' The first section has a search bar with the text 'connie.myrick@rice.edu - Constance Myrick' entered. An orange arrow points from the search bar to the text 'CONNIE MYRICK'. A red circle with a white 'X' is in the bottom right corner.

HOW SHOULD YOU MANAGE YOUR TRAVEL EXPENSES?

- Before your trip:
 - Submit your travel authorization form
 - See Grad Admin to register, book airfare, hotel, etc. (can be done months in advance)
 - **Forward receipt images to Grad Admin for any purchases made on p-card**
- During your trip:
 - Collect **ALL** receipts (**itemized**) related to your travel if you plan to submit for reimbursement
- After your trip:
 - If reimbursements, initiate expense report and upload scans of itemized receipts
 - Communicate with Grad Admin who will finalize your report **BEFORE** you submit it in Concur (**reports due within 30 days of return**)



CREATING AN EXPENSE REPORT

- **Name your report:**
 - Advisor last name/Student last name TV City MONTH ABBREV year
- TV identifies this as a travel-related report
- Example: Cates/Eaton TV Boston AUG 2019
- Enter dates of travel
- Grad Admin will complete the rest of the header in the required style
- **Click “NO” when it asks about per diem**

Manage Expenses View Transactions User Resources

Create a New Expense Report

Report Header

Report Name	Policy Rice Expense Policy	Business Purpose Summary	Report Type	Trip/Report Start Date 10/29/2015	Trip/Report End Date 10/29/2015	Comment - Additional Information	Org 015000 Chemical & Biotech
Fund 941 Current Unrestricted Fur	Guest to be reimbursed No						



CONCUR: COMMON EXPENSE TYPES



- Registration Fee & Conferences
- Travel Individual Meal (1 person) -- if you are the only one eating
- Business Meetings – Meals (2-9) – if multiple Rice people dining together (list all persons in the appropriate window. Affiliation = BioSciences)
- Auto mileage
- Hotel Accommodations (Hotel or Airbnb, etc.)
- Ground Transportation (Taxi, Uber/Lyft, shuttle, etc.)
- Airline Fees - baggage



ENTERING EXPENSES

Explain the expense



MEALS

- Meals for one-day travel cannot be claimed for reimbursement
- When dining in Texas for Rice business, must use the Rice sales tax-exempt form
- Alcoholic beverages **NOT** allowed, must be paid for personally and on a **separate** receipt
- **Itemized** receipts required



GROUND TRANSPORTATION

- To/From local airport – drive and park (inexpensive lot options) or shuttle
- Ride-share (Uber/Lyft) or Taxi – Allowable directly to/from airport and destination lodging. Must email full receipt (date, addresses, cost) to Grad Admin
- Use conference or free airport shuttles when possible to minimize expenditures
- Mileage reimbursement through Concur if personal vehicle is used for travel on Rice business (this practice is generally discouraged)
 - May be limited to amount of airfare to the same destination



CAR RENTALS

- Car rentals can be reserved with a Rice University account at National or Enterprise
 - See Grad Admin for the Rice account code
- Rental vehicles may need to be purchased on personal card and reimbursed because credit card must be present when picking up vehicle
- Rice's auto insurance policy covers students in rental car or Rice vehicles when rented with the Rice code (within the U.S. only). You must decline additional auto insurance offered by the rental company or pay for it yourself.
- GPS service is not an allowable additional rental expense
- Avoid high rental company fuel charges by refilling the tank before returning vehicle (keep fuel receipts)



MILEAGE REIMBURSEMENT

New Expense Available Receipts

[View Reimbursement Rates](#)

Expense Type: Auto Mileage -70220

Transaction Date:

Purpose of the Trip:

From Location:

To Location:

Payment Type: Cash/Out of Pocket

Distance : Amount

0 : 0.00 USD

Comment:

[Mileage Calculator \(Required\)](#)



MILEAGE REIMBURSEMENT

Make
round trip
if you
drove
there and
back

The screenshot shows a 'Mileage Calculator' web application. On the left, there are input fields for 'Waypoints'. The first waypoint is '6100 Main St, Houston, TX 77005, US' and the second is '400 Blizzell St, College Station, TX 7784'. A red arrow points from the text 'Make round trip if you drove there and back' to the 'Make Round Trip' checkbox, which is checked. Below the waypoints, there are 'Directions' and 'Suggested routes' listed. At the bottom, a table shows 'TOTAL PERSONAL' as '0.0 MI' and 'TOTAL BUSINESS' as '97.0 MI'. A red arrow points from the '97.0 MI' value to a blue button labeled 'Add Mileage to Expense'. The background of the calculator is a map showing the route between Houston and College Station.

Category	Mileage
TOTAL PERSONAL	0.0 MI
TOTAL BUSINESS	97.0 MI

BEFORE YOU SUBMIT THE REPORT!

- If Rice awards or advisor funds are covering the expenses, be sure you've told the Grad Admin which funds to use and forward any notices from other travel awards
- Ask the Grad Admin to review and finalize your report
- The Grad Admin will let you know if edits or additional information is needed

GET YOUR MONEY BACK!

- Set up ESTHER to receive direct deposit. Instructions [here](#)
- Be sure there is a “Yes” indicated for both Payroll and Accounts Payable

Stipend

Payroll	Accounts Payable
Yes	Yes

**Reimbursements/
Awards**





EEB Graduate Student Symposium: Presentation Preparation Guide

Title

- Clear and appropriate title (should summarize contents of your presentation), author name, affiliation/lab

Introductory Slides

- Forecast: Briefly identify the problem you're addressing and insight you found
- Outline: Give the structure of the talk you're about to give
- Motivation and Problem:
 - Why should anyone care about this topic you are presenting? How will your information benefit the audience?
 - Describe the current state of understanding in the field
 - What is known and not yet known
 - Relate **your** research project to previous literature.
 - How does your work relate to previous work?
 - How does your work advance (Add to) the field?
 - Are there wider/broader implications of your work for science or society?
 - What is your specific hypothesis or research objectives/goals?

Methods, Design, Analysis

- Heading or other indication that experimental methods are now being presented
- Introduce study system and relevant biology/ecology of you study organism/population/community
- Explain overall methodological approach
- Explain analytical methodology and statistical methods
- Convey appropriateness of methods to achieving stated study objectives or goals

Results

- Heading or other indication that you research results are now being presented.
- Focus on key results and key insights.
- All figures should be clear and readable
- Figure contents (e.g. axes, symbols, scales) and patterns (e.g. trends, relationships, statistical outcomes) are explained thoroughly
- Avoid large tables; utilize clear figures

Conclusion

- Summarize main points
 - Interpret the results in the context of the story laid out in the Introductory slides
- Do these results solve the problem presented in the introductory slides?
- Offer next steps or future work generated by the presented research
- Final slide with take home points
- Acknowledgements (funding sources, advisor/collaborators, field or lab assistants, others who helped make your work possible).

Sources:

<http://pages.cs.wisc.edu/~markhill/conference-talk.html#interview>

Dr. Mary Purugganan – BIOC 583 seminar on presenting seminars, Feb. 6, 2017.

<http://www.northwestern.edu/climb/resources/oral-communication-skills/creating-presentation-body.html>

Graduate Thesis Evaluation

Ecology & Evolutionary Biology Graduate Program, BioSciences Department, Rice University

(To be completed by all committee members as part of our graduate program assessment)

Student: _____ Date of defense: _____

	excellent	very good	satisfactory	unsatisfactory
Knowledge of background research and techniques	☐	☐	☐	☐
Comments:				
Research results	☐	☐	☐	☐
Comments:				
Problem solving and critical thinking skills	☐	☐	☐	☐
Comments:				
Document text (written communication skills)	☐	☐	☐	☐
Comments:				
Presentation (oral and visual communication skills)	☐	☐	☐	☐
Comments:				

Committee member: _____ signature _____

Guidelines for Evaluation of EEB Graduate Thesis

<i>Background and Significance</i>	Excellent:	Identifies all relevant results and techniques from the literature, and synthesizes them in a thoughtful discussion
	Satisfactory:	Discusses major previous works and places them in context for the present project
	Unsatisfactory:	Fails to cite or assimilate previous work
<i>Results</i>	Excellent:	Extensive published or publishable results with thoughtful discussion
	Satisfactory:	Some published or publishable findings that are adequately described
	Unsatisfactory:	Limited or unpublishable results or low quality of discussion
<i>Problem solving and critical thinking skills</i>	Excellent:	Demonstrates a deep understanding of the discipline that extends beyond the contents of the document
	Satisfactory:	Competent answers that illustrate a facility with the issues and techniques immediately relevant to the thesis project
	Unsatisfactory:	Answers reveal a limited familiarity with the thesis project or its context
<i>Thesis text</i>	Excellent:	Good organization, fluent prose, and few grammatical errors; full compliance with formatting guidelines
	Satisfactory:	Decent organization, coherent prose, and limited grammatical errors; full compliance with formatting guidelines
	Unsatisfactory:	Poor organization, incoherent prose, and/or numerous grammatical errors; not in compliance with formatting guidelines
<i>Oral presentation</i>	Excellent:	Engaging, highly polished presentation with well crafted slides that illustrate key results in the project and clearly describe wider implications
	Satisfactory:	Professional presentation on par with a solid conference talk; includes a coherent project narrative
	Unsatisfactory:	Too much or too little detail; unclear about project goals and direction; incoherent or illegible slides; read from slides

Research Presentation Tips – the art of a truly great seminar

Compiled and edited by Josh Tewksbury...

The following document was prepared by soliciting feedback from a wide range of faculty at R1 research institutions. I am an ecologist, but consistent advice came from colleagues in a wide range of fields. I have edited the advice only slightly, and organized it into main themes.

Two principles and a rule of thumb to begin. First, every talk is a job talk. Unless you never see yourself moving, then every time you talk about your work, you are giving a talk that could lead you to the next job. Job opportunities have been lost because of sloppy "informal" talks in which chairs or search committee members were unimpressed. Second, the research seminar is almost always the most important aspect of an actual interview.

You learn to give a good seminar the same way you get to Carnegie Hall -- practice, practice, practice. Get critical, constructive feedback on several iterations of your talk before any high-stakes event. A good rule of thumb for any high stakes talk – give yourself a minimum of 40 hours of work time to build the talk and hone it to perfection. The difference between a competent talk and an exceptional talk is that last 20 hours of practice AFTER you think the talk is “in good shape”.

I have organized this into 5 sections – I. the art of preparing the talk (9 commandments for building a truly great research seminar), II. the art of giving the talk (12 tips focused on the delivery of a great talk), III. a bundle of tips for making clear slides, IV a quick hit list to check if you are truly ready to give you talk, , and V. a small number of resources (we can add more during the seminar).

I. The Art of Preparing the Talk

1) Provide a narrative: the art of clarity and mystery

- Care about story telling and narrative structure. The best seminars are good stories and like all good narratives they have an interesting and engaging plot. They keep the listener at the edge of their seat. The art of a good narrative is to combine predictability and surprise. Tell your audience what the story will be about (this is what "organizing slides" are about) but have a plot with surprises and interesting turns. The art of a good narrative comes from either being an innately good story-teller, or from reading good fiction (Poe, Hemingway, some of the good pulp and mystery writers such as Elmore Leonard are great models). It does not hurt to make an outline of your plot rather than just putting a bunch of slides together. Posing mysteries/questions is a ploy that can be used to great dramatic effect.
- use a story-telling technique other than chronological - "first i did this, then i did this, then i did that" is, well, boring. extra points for creating a suspenseful story. two story-lines i use regularly use:

- 2x4 from the left - leading your audience in one direction, with the implicit expectation of a certain result or outcome, dashing their expectations (the 2x4), using that research "disaster" to realize some greater pattern, outcome or underlying fundamental truth (this structure works well for a series of experiments with early "failures" leading to a divergent path and final success)
- baptist preacher - start high, bring low, end high. works really well for conservation talks where the end message mixes scientific outcomes with a larger social/societal message of interaction/responsibility/ etc.
- Science is a detective story. Tell it like one. State hypotheses explicitly, with at least two strong, plausible alternatives so that nobody can figure out in advance what your results will be. Highlight the unexpected and the counterintuitive results. Play up any clever insights that let you solve the problem, or any exceptionally large datasets and analytical savvy that let you do what nobody else has been able to do before. Science is (or at least should be) a CREATIVE enterprise, not just a slog.

2) Provide context and structure

- Care about didactics. When you give a lecture you are both an entertainer and a teacher. Audience members should go out knowing something new and having learned how to explain it in a couple of pithy sentences. The best talks are those in which people leave saying "I didn't know that! Man, feather lice are so cool!" Do not be embarrassed about giving all the background/context needed for the talk to be understood and for its importance to be appreciated. What is obvious to you might not be to the rest of the audience. Ecologists will welcome a refresher on how G proteins work and physiologists will thank you if you explain how the neutral theory works and why it matters.
- Why is your research important to science? What are the big questions you're addressing? Why is your system BY FAR the best way to get at these questions? Context and relevance are EVERYTHING for the majority of the audience.
- Avoid assuming your audience knows as much about the nitty gritty as you do. If you start a talk with a statement like "You probably all know the importance of the corticosteroid hormones for..." well, then you've lost (and perhaps alienated) those in your audience that don't (which at the very least, will be graduate students - also see point 3 above: what to do).
- Start with saying what you are going to say. It could be an outline of the talk or even some of the major conclusions right up front. People want to know within less than 5 min what the point is going to be and whether they are in the right lecture. Only after this brief statement, begin an introduction of the general area of this work and why it is interesting. After an introduction, you have your observations, and towards the end, summarize all over again. Include broader implications. Don't forget this last section on implications, else people may go away wondering, "so what?"
- Have a clear overarching question that you start with, flesh out, and return to (i.e. say what you will say, say it, remind people what you said). The bricks are the

excellent results and data you have garnered, but without the mortar, no one will understand their significance. Outlines, schematics with parts highlighted, etc, are great for this.

- Have a good conceptual framework explaining what you like in Biology (or whatever field...). Usually only a small fraction of the audience will really get the details of what you do. They need to hear and see (with a schematic) what the big picture is. This is usually three topics, like “behavior, physiology, and environment” or “modeling, field observations, and manipulations”. It really can be anything...but often this is the ONLY thing that the majority of the audience will take away about the candidate. It gives people an idea of what you would do for 30 years, and how you would fit into that department.

3) Keep it simple

- Bad seminars frequently try to pack far too much into the time slot. My gut tells me that you can hit only 2-3 pieces of the big picture story in any seminar.
- In any talk you will have some goal--a few points to make. Organize the talk to maximize the clarity of these points. Throughout focus on items that lead you to these specific goals and reject tempting tidbits that don't aid in getting there.

4) Care deeply about representation, from graphics, to art to font

- Slides must be clear but in great seminars they are beautiful. Spending time making beautiful images that are didactical and clear separates the good/competent talks from the excellent ones. What we do, the creatures and systems that we study, are so damn beautiful that there is no justification for esthetically sterile talks.
- No slides where ANYTHING is unreadable or hard to interpret. How many times have you heard a slide introduced like this: "I know you can't read this in the back of the room, but ..." "These colors didn't show up as well as I thought, but ..." ""This is a very busy figure so I'll walk you through it ..." "I know this slide is a little dark, but trust me -- this little smudge is really important ..." "There are no labels on these axes, but they are ..." IF YOU HAVE TO APOLOGIZE FOR A SLIDE IT IS NOT WORTH SHOWING.
- Clear and beautiful figures that are clearly explained. What is the x-axis? What is the y axis? What pattern (trend line, colors, differences, no relationship, etc) do you want people to see in the figure? Only after explaining all that will people really understand the significance (which you should also tell them).

5) Cut text, then cut more text, then remove even more text.

- No text-only slides. EVER. Images should be compelling, clear, and large enough for the old timers in the audience.
- Use PowerPoint as an image projector, not a presentation crutch. That means minimal text, rarely if ever in bullet point form, always large font.

- Use as few words as possible. Avoid long lists of anything. People can't retain them. If you have to say, "I know you can't read this but....," you have too much material on your slide.
- Make sure that you'll talk about everything on each slide. Otherwise, remove unneeded figures or panels.
- Minimize text on slides - put only enough text on the slide to remind yourself of what you need to say, or very very strategically to remind the audience of some key concept or number that they need to remember as the story rolls out¹. And if you can remind yourself what you need to say with just a photograph or a graph, even better. This produces a more professional slide set that seems a little more 'mature', and it draw the audience into the speaker's story rather than reading slides.

6) Know and care about your audience

- Know your audience. The first 10 minutes and last 10 minutes (at least) must be accessible to EVERYONE in the audience. I have never, EVER heard anyone complain that a speaker spent too much time on introducing the subject and putting it in context.
- Know your audience. A seminar to a biology department is different than a seminar to a cell biology or ecology/evolution department.
- Know the audience. It's crucial to gauge the level appropriately. If you know key people in the field will be in the audience, make sure that you cite their work appropriately, but not gratuitously. Also, don't confuse appealing to a broad audience with "dumbing down" - colleagues (including undergraduates through senior faculty) from other disciplines or sub-disciplines are not stupid, even if they aren't up on the latest bayesian technique,
- For the job seminar, talk briefly in a very genuine way about your fit to the department. This is not an idle shout out to all the professors you might have something in common with. Instead, this takes researching the departmental resources and understanding how you could both use and contribute to them.
- For the job seminar, use the last 5-10 min. to talk about what you would do in your new lab. This could even have potential specific aims for a grant. Consider what experiments your first rotation or grad student or undergrad(s) would do in the lab.

7) Be clear about YOUR research

- Be very clear what YOU, PERSONALLY have contributed to the science. Own the work. Don't say "I'm a postdoc in the xx lab and we study....". This is especially important if you're coming out of a big lab. Some tips:
 - Use your acknowledgements well. Be classy, complete, and quick. This is one of the only times in your seminar when you will put text and information

¹ Beware: This latter use of text is where speakers go horribly wrong, thinking the audience needs to remember dozens of full sentences and big bulleted lists.

on a slide that you will not talk about. List funding, list advisors and lab-mates, list collaborators. Don't call them all out by name.

- List published works under relevant results, so folks know what is published.

8) Reduce the number of slides and the number of transitions

- The exact number depends a lot on how you use them, but you will almost always have too many
- Up to 35 slides for a 45-minute talk might be possible. More than that, especially if many have data, is just overload. For a 15 min talk, 10 slides seems the upper limit. You may be able to get through more, but the audience will not. You want them to come away satisfied rather than frustrated. Boil down the message to the essentials.
- Avoid data diarrhea: Sometimes your story has lots of data you are very proud of. One approach is to show the audience how you carefully analyze one or two points using the raw data. Do this until the audience recognizes that you think well and trusts that you are satisfying rigorous criteria. Then say that you investigated the five other points with similar methods, care, and scrutiny, but since there isn't time to show each of the individual experiments, you will just be stating the results. This way, you have illustrated how to do it well with details and yet not dragged the audience through too many details.

9) The E's of life, in 15-minute packets, and with clarity

- Giving talks as all practices is about all these E's of life, isn't it: Empathy, Ethics, Esthetics, and Etiquette ...
- Any talk over 15 minutes is longer than our brain's attention span, so break up your talk into 15 minute pieces and then pause for a minute or so between each one so that people can rest.
- get over the need to show your disciplinary colleagues you speak the jargon and can "out-math" them - live in fear of a resurgence of buzzword bingo, and strive to make your work understandable and relevant to the broadest audience

II. The Art of Giving the Talk:

1) Stay on Time

- Stay on time, and under the full amount of time allotted. Make sure to allow time for questions, e.g. if it's a 50 min time slot, aim for 40 min - I think it's pro when I see a speaker clock in around 40-42 min, treating the seminar as a time for a collegial exchange of ideas rather than just a show about themselves. It shows both confidence and openness.
- Finish on time to leave room for questions. Nobody ever complained about a seminar that was TOO SHORT.

2) Slow down

- Avoid talking too fast, not looking at your audience and reading from notes. If you are not engaged in your audience because you are nervous they will check out. Learn to work with your nervousness.
- Speaking faster to say more does not improve a talk. Give yourself time to make points clearly and for the audience to think while you are talking. Leave the slide you are talking about up until you have finished making any points about it. It is easy to make the mistake of flipping to the next slide while still finishing your statements about the previous one.

3) Connect with individuals

- Care about your audience. Respect and pay attention to those in front of you. Engage them. This takes place at, at least, two time scales. Get to know your audience before giving the talk and prepare a suitable one. It is deadly to give a seminar full of ecological/neuroscience/molecular jargon to a general biology department (or worse, to a general lay audience). It is also bad to give too general a talk to a specialized audience. The second time scale is while delivering the talk. Paying attention to your audience is key. Are they engaged? Is it time to crack a joke or do something vaguely outrageous to bring them back into the fold? It is often nice to engage the audience at a personal level. There are all sorts of ways of doing this...(e.g. involve someone in the audience as an element of the talk. "Josh, what do you think. Does this graph make sense?" Make eye contact and ask questions to the audience "Have you all watched the director's cut of Bladerunner?". Make frequent eye contact to see if you are keeping the audience with you. There will always be someone snoozing ... Do not freak out.
- No matter how many people are in the audience, talk to them as if you are in the hallway with a single colleague and are in a conversation. positive, intense, focussed. LOOK at people - stare straight at them as you make your points. connect! get out from behind the lectern/podium and move towards the audience. people will stay awake, and stay involved if you are looking/talking directly at/to them. This means be prepared and bring your own equipment (see #11).
- Especially if you're on a job talk and you've had a chance to meet/talk with folks before your seminar - include points raised in those conversations in a causal way, and name them without being overly pandering. connect to your audience.

4) Consider the power of the spoken word, and the power of silence

- Channel David Attenborough, Oprah, and Carl Sagan. Don't rush. Emphasize individual words/points. Use silence to allow a visual point, or a spoken point, to sink in. Allow yourself to use a broader vocabulary than is customary in science. Cement your messages with metaphor...

5) Vary your pace, vary your voice and convey excitement

- You're not 'giving a seminar', you're not nervous. You're just talking science with some colleagues, and there's nothing else you'd rather be doing.

- Let your voice communicate your excitement about your science. If you don't care, why should I?
- Vary from detail to generalization. After a dense part, say something lighter...after a few graphs, have a colored picture of your preparation or of a model or of anatomy... Try to make it fun as well as interesting. Eventually public speaking will be a pleasure for you as well because one can enjoy communicating technical ideas in a clear and effective manner. Your enjoyment will be evident and will help audience enjoyment. And practice a punchy last sentence or two so you don't end with, "Well I guess that's all I have to say."

6) Recognize that many people do not hear as well as you

- A significant number of older people hear poorly, and many speakers' voices tend to disappear toward the end of sentences. They have a nice strong voice, but in mid sentence it goes into a gravely lower register and fades as perhaps they are running out of breath. The sentence ends like a casual parenthetical whisper that can't be heard. I suggest trying to catch yourself doing that and developing a more consistent audible tone to the end of the sentence. Keep the voice up all the way through. Pause and take a breath instead of squeezing more out. Despite this, variations in voice are good ways to catch attention. For that you can go loud for emphasis but not soft.
- Many people in your audience will not be native English speakers. Try to use simple, widely understood words, allusions, and humor rather than local idioms, however trendy. Talks have an implied formality. Consider that you are on show and are the leader of an intellectual experience.
- Your talk is accessible only if it can be heard and understood. In each room, try to estimate how loudly you need to speak to reach the back row. If you are not confident of being heard, use the microphone when available. The microphone helps only if you remain near it and speak towards it. Experiment a bit before the talk starts.

7) Don't apologize and make statements

- Avoid being self-deprecating. Don't put yourself down (saying things like "I know this pattern isn't strong but..." or using too many caveats like "This may mean"). Be confident (without being annoyingly cocky). Never apologize for anything in a job talk.
- Try very hard to make statements about what you see rather than say them as questions (because your voice goes up at the end of a question, reducing its impact).

8) Start and end strong

- Consider starting, or ending, your talk extemporaneously with the lights up. force the audience to look at you, and to follow your words. it takes a bit of guts, but it also connects the audience to you, instead of to your images.
- Know your first and last sentences cold. So, "Thank you for inviting me to...." (also know your first scientific sentence). If you mumble through the first few minutes,

you're toast. You should also be able to end your seminar gracefully. 'That's all folks' is great for Bugs Bunny, but not for a seminar.

9) In the question and answer session

- Don't interrupt questioners.
- For aggressive questions, always answer the substance, never answer the tone.
- Don't make your answer to a question too long.

10) Make peace with the pointer(s) – point it, don't circle or draw with it.

- Use the pointer to indicate the data you are describing. Move it slowly to guide movement of the eyes to exactly what you are now talking about.
- Don't wave it rapidly or in circles to call attention to an area. The observer gets dizzy and can't see through all the visual interference you are creating. I just close my eyes when that happens. Point and hold.
- Always bring your own pointer to a job talk

11) Always prepare for the unexpected

- Try your talk on different platforms (PC, Mac) and projectors. Prepare for something to fail (e.g., an embedded movie). Bring a backup of your talk on a flash drive, and put a copy on the web where you can retrieve it anywhere that there's web access. Shit happens.
- Bring a second laser pointer to every talk. Laser pointer batteries run down often in a lecture. The batteries have very little capacity. You can see the pointer light better than the audience. If the light starts looking dim to you, the audience will not see it; switch to an old fashioned stick or pull out your other pointer.
- Bring your own USB remote, so you can walk around the room.
- Assume your computer will die en-route, so always carry backups (jump drive, CD) of your presentation and have a copy in dropbox that you can access from a distance, if needed.
- Check your images on a data-projector, not just on your computer. Data projectors often alter colors and brightness.
- If you have multimedia (sound, video), check, practice, verify, have alternate solutions. Even if problems that arise are not your fault, some will see them as your fault. If problems do arise (with any part of your talk) never apologize. Just move on. Never point out misspellings that you suddenly see during your presentation. Stiff upper lip. Fix the error immediately afterwards.
- Show up early to test your setup. Remind your host about knowing how to access technical help, in the event of a glitch.
- If you are going to a meeting and need to upload your presentation onto a session computer, check for Mac-PC incompatibility, preferably before you go. Have a .pdf

version as a backup -- that should work on any computer, but you'll lose any animations.

III. A bundle of tips for building a clear slide

- Titles: Use a simple declarative/informative brief title at top of EACH slide. Not "Effects of A" but "A Blocks B" or "A is Inactive" or "A activates B." This will help those who doze or looked down or jotted a note when you first said what the slide was.
- Size of lettering. 20 to 35 point in PowerPoint! Everyone makes them too small. 18 points is the lowest you can go for a label. The larger size is for titles. A convenient rule of thumb is that the lowercase letters of any label need to be 1/40 of the size of the picture at least--you can measure this during practice projection. This goes for the numbers labeling tic marks on graphs and the indication of their units too. Don't be embarrassed to use large letters. Look at any billboard. No printed figure labeled for publication has letters big enough for a projected slide made from the same picture. Re-letter figures from the literature to meet this requirement. You can erase the old letters in Photoshop and relabel in PPT, or cover the old letters with new ones in a white box. To make a test, project something in the auditorium and go to the very BACK of the room and ask if it is clear. Can you really read the smallest letter? Similarly a transparency made with the 12-point type that we would consider generous for a printed document is not visible on projection.
- Lines: Often you will import graphs from another program. Either in PPT or in the original program, make the axis thickness and symbol sizes adequate. A 1 point line thickness does not show. If you import graphs and then shrink them on the PPT page, letters, lines, and symbols will become smaller.
- Colors: Colors are great but try also to have contrasting brightness. Objects differing in color but not brightness are hard to see. Contrast is paramount. Textured backgrounds just make it hard to see the stuff you are presenting. They obscure your message. Dark reds and blues are brilliant on the computer screen but disappear if put on a black background. Dark reds are fine against white. Yellow disappears against a white background
- Consistency and continuity: Movies have a continuity editor who makes sure that the cars stay the same color from scene to scene and people wear the same clothes coming out of the door as they did going into it. Similarly, you can try to keep the same color/symbol/thickness for control data versus that for test data. In diagrams, represent the same object the same way each time.
- Transitions: use av to supplement your message, not provide the main entertainment. zooming slides, too many animations, lots of videos, etc. etc. the audience should remember YOU first, your message/science second, and your av third.

IV. You know when you are ready when...

- You know what is on the next slide without having to think, and you can transition easily from one slide to the next
- You have eliminated all the text “crutches” from your talk
- You know what part you would cut if your talk is running too long and you are able to cut it on the fly without a pause²
- You are comfortable explaining all of your material and working with the audience directly

V. Resources

- Watch 'power poses': http://poptech.org/popcasts/amy_cuddy_power_poses
- Garr Reynolds' blog Presentation Zen is pretty good if you can get past the self-promo and wise sage schtick. <http://www.presentationzen.com/>
- It is worth studying - though not necessarily emulating - the so-called Lessig method. http://presentationzen.blogs.com/presentationzen/2005/10/the_lessig_method.html
- Watch, and re-watch some fantastic seminars. There are plenty to choose! Here is one, for example.. <http://128.208.114.46/seminars/02-08-12/index.html>

² It is excruciating when a speaker says 'I should skip this since I don't have time', and then they end up talking a long time about it anyway (And this is where having less text on the slides useful because it's way less obvious if you're skipping something...)

Plagiarism: Recognize and Avoid It

What is plagiarism?

Plagiarism is the use of someone else's ideas, processes, results, equipment design, visuals, wording, or even sentence structure as if they were your own, whether the source is printed or electronic.

Every incoming student receives information about plagiarism from the Rice University Honor Council, which judges cases of alleged **Academic Fraud**: “Violating the **Honor Code** requirements of an assignment or failing to credit one's sources constitutes academic fraud and would, therefore, violate the Honor Code.” The Council defines plagiarism as “quoting, paraphrasing, or otherwise using another's words or ideas as one's own without properly crediting the source.” A “false citation” or “false data” are also violations. Current penalties range from a three-semester suspension and a failing course grade to a warning, depending on circumstances. Check the Honor Council website for further details.

Rice University Policy No. 324, Research Misconduct, states “Research misconduct means fabrication, falsification or plagiarism in proposing, performing, or reviewing research, or in reporting research results. . . . Research misconduct, however, does not include honest error or differences of opinion” (2011).

Professional journals, too, are checking more closely for plagiarism, including self-plagiarism (using your own previously published work with or without citation).

Therefore, **you plagiarize if you**

- Use someone else's ideas, processes, results, equipment design, visuals, or wording without citing the source;
- Copy something word for word without using quotation marks, even if you cite the source;
- Write an unacceptable paraphrase, changing the source wording only minimally, even though you cite the source;
- Use all or part of a visual without crediting the source.

Why is it important to avoid plagiarism?

In the United States, plagiarism is considered **academic misconduct**, and you are expected to recognize and avoid plagiarism. It is **YOUR** responsibility to use quotation marks when using exact source words, to paraphrase correctly, and to cite all sources whether on slides or in written text. You must cite the source even if no author is identified, as on Wikipedia.

Plagiarized work can result in a failing course grade, expulsion from graduate school, rejection of a paper submitted for publication, denial of an advanced degree, loss of your scholarly reputation, or loss of job.

Most journals run every submitted paper through software that checks for plagiarism. Some journals say explicitly that a paper containing any plagiarism will be rejected; in some cases no paper by that author will be accepted for 3-5 years or longer. Unfortunately, the Internet has made plagiarism easier than ever before, much research is done online, and it is easy to import blocks of text without noting the source. You might also infringe on someone's patent, thereby leaving yourself open for a lawsuit.

How can you avoid plagiarizing?

1. For each source you read, **keep electronic notes**. You might want to use the **Template for Taking Notes**, which can be downloaded from the Rice Center for Engineering Leadership (RCEL): www.rcel.rice.edu, and is available in this handbook. As you enter the information, proofread for

completeness and accuracy. Be careful to put quotation marks around any blocks of text or wording that you import so that later you can put it into your own words and won't accidentally plagiarize.

2. If in your writing you copy something **word for word**, put **quotation marks** around it and cite it: (Jones 2010). **Paraphrase by putting ideas into your own words**; cite the source of the ideas: (Adams et al. 2009). Because you cannot paraphrase a visual, **if you copy a figure or table, cite it** at the end of the caption and inside the period: (Alvarez 2010). **If you change a figure or table or use only part of it, cite it** at the end of the caption: (Adapted from Alvarez 2010). Put the **complete bibliographic reference for all citations** in the Bibliography (or Works Cited).
3. **Practice paraphrasing (putting someone else's ideas into your own words)** because it's often difficult to do. Avoid the temptation of paraphrasing too many details. Focus on the main idea or evidence that you need to cite. (Read carefully—don't change the meaning!) Once you have determined what you need to paraphrase, reread the source and then cover it up. Write the main idea from memory and then check to verify that you haven't used exact wording or sentence structure. Simply changing the verb tense or substituting one adverb for another, but leaving the sentence structure essentially the same, is still considered to be plagiarism. Remember, too, that a paraphrase is always considerably shorter than the original text.
4. **Always cite your source, whether for text, visuals, or ideas**, including those from papers or posters at conferences. If you cannot remember the source, you cannot use the information. Put citations in as you write your first draft so that you don't have to go back later when identifying the source may be difficult. If you use any material from one of your own previously published sources, cite it.

If you are using parts or all of one or more of your published papers in a Master's thesis or PhD dissertation, check the journal contract to see if you already have permission to do so. Otherwise, contact the journal for permission. Keep a paper copy of your request and of their answer. If you are using an entire paper as a chapter, identify it at the beginning of the chapter and then cite it often during the course of the chapter.

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5. In your text, **make clear whose work you are referencing**. It often works well to name the author at the beginning of a short paragraph and then give the citation reference at the close of the paragraph. For example: Alvarez disagrees, however, stating that the polymer is not strengthened significantly by Indeed, the evidence given in the paper indicates increased strength of only .005 percent (2010). If the paragraph is long or includes more than one reference, you need to give the reference more than once.
6. Generally, it is a good idea to **identify an author by name rather than by referring to a number in your bibliography**, though this practice varies somewhat by field or by journal. In any case, **try not use a reference number as a part of speech**. Do not, for example, write that "[10] gives more compelling evidence than [98] provides." Think of how time consuming it is for a reader to have to keep flipping to the bibliography to see who has said what. It would be preferable to write "Johnson et al. (10) give more compelling evidence than Dickerson et al. (98) provide." And then move to the evidence, clearly identifying the references as you discuss the evidence each author gives. [Whether you use square brackets or parentheses depends on the field or journal.]

Examples of Citation within the Text

CONFUSING: [10] and [15] were the next to apply this algorithm to new nanoshell applications.

CONFUSING: The first big improvement came in the work of [10].

CLEAR: Koninsky et al. (10) and Rebert et al. (15) were the next to apply this algorithm to new nanoparticle applications.

CLEAR: The first application of this algorithm to gold-coated silica nanoparticles came in 2007 (Smith and Wesson 2008).

LESS CLEAR: Research teams then began to apply this algorithm to gold-coated silica nanoparticles [10, 15]. (But at least the reference is not used as a part of speech.)

CLEAR: Research teams then began to apply this algorithm to new nanoparticle applications. (See, for example, Smith and Wesson 2008 and Rebert et al. 2009.)

CORRECT, but LESS CLEAR: Research teams then began to apply this algorithm to new genetic sequences. (See, e.g., 10, 15, and 22.) [Too many commas—not clear]

CLEAR: (See, e.g., Smith and Wesson 2008 and Rebert et al. 2009.)

For suggestions on how to avoid plagiarism and cite information, see Diana Hacker and Nancy Sommers's *The Bedford Handbook*, 8th ed., 2010 or 9th ed., 2014. The book, available either as a print or an electronic copy, includes extensive examples of APA and Chicago style guides or go to other web sources. Always check a journal's Style Guide for citation specifics for a paper you are submitting. If you are submitting for publication outside the U.S., style expectations will differ. The preferred style may differ from field to field, as well. Ask fellow graduate students if they can recommend software that can automatically reformat to differing styles. If you have kept an accurate and complete electronic file of notes on what you read, you'll be able to meet any requirements.

Using Internet Resources

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Examples of Citation in a Bibliography or Works Cited

Notice that the same basic information is included in the three entries for journal articles, although the styles differ. Choose the style appropriate for what you are writing, and then be consistent within the document. You must follow a style guide.

If the Bibliography is set up numerically rather than alphabetically, references are numbered consecutively within a text, and the bibliography entries would be numbered with the authors' names listed with first name (or initial) first as in [24] J. Conant.

Print sources

Beattie, Christopher, Mark Embree, and D. C. Sorensen. *Convergence of Polynomial Restart Krylov Methods for Eigenvalue Computation*. *SIAM Rev.*, 47 (2005), pp. 492-515. [Journal style]

Chen, J. Y., A. Kutana, C. P. Collier, and K.P. Giapis. Electrowetting in Carbon Nanotubes. *Science* **310**, 1480-1483 (2005). [Journal style]

Hacker, Diana & Sommers, Nancy (2010). *The Bedford Handbook*. Boston: Bedford/St. Martin's. [APA style]

Nicolo, Micah J., Gerald R. Dickens, Christopher J. Hollis, and James C. Zachos. "Multiple early Eocene hyperthermals: Their sedimentary expression on the New Zealand continental margin and in the deep sea," *Geology* 35, no. 8 (2007): 699-702. [Chicago style]

[24] J. Conant. *109 East Palace: Robert Oppenheimer and the Secret City of Los Alamos*. New York: Simon & Schuster, 2005. [IEEE style]

Electronic sources

Travis, E. R.; Hannink, N. K.; van der Gast, C. J.; Thompson, I. P. ; Rosser, S. J.; Bruce, N. C. Impact of transgenic tobacco on trinitrotoluene (TNT) contaminated soil community. *Environ. Sci. Technol.* **2007**, 41 (16), 5854-5861; DOI 10.1021/es070507a. (As illustrated in the Style Guide for *Environmental Science & Technology*; note the substitution of the DOI for the URL and date retrieved when the DOI is available.)

Herbst, Roy S., M.D., PhD., and Scott M. Lippman, M.D. Molecular Signatures of Lung Cancer—Toward Personalized Therapy. *New England Journal of Medicine* 356, no. 1 (January 4, 2007): 76-78. Retrieved April 18, 2007 from <http://www.nejm.org>

Examples of Plagiarizing and Paraphrasing

The original text

“The times people choose for writing are often vestiges of old habits and time constraints. Undergraduates tend to write in the evening or late at night because they have classes and other responsibilities during the day. But habits of nocturnal writing often persist, unexamined, long after the writer’s circumstances have changed, among people who really function best in the morning. The majority of professional writers prefer to work during the day.

Regardless of your preferences, this needs to be a matter of choice, to the extent that you can choose times for writing. After all, you probably schedule other activities at appropriate times, according to your needs. I imagine that you cook or buy meals when you are likely to be hungry, that you sleep when you are tired, and that you run or play tennis when you have some energy, not when you are completely exhausted. Yet a surprising number of people try to write when they are least rested and alert, or most likely to be distracted.”

Hjortshoj, Keith (2001). *Understanding Writing Blocks*. New York: Oxford University Press, 108-9.

(The term “writing blocks” refers to those situations in which a writer is unable to make writing progress; in other words, a graduate student, for various possible reasons, is unable to write and may instead focus time and energy on other tasks, such as reading an almost endless list of background papers or running another iteration.)

Read the following examples and decide if each is paraphrasing or plagiarism. Underline any plagiarism.

1. The times graduate students choose for writing are often based on old habits and time limitations. If as an undergraduate you wrote at night, you need to look at how your circumstances have changed to see if you are one of those people who really function best in the morning. Most professional writers work during the day. But your decision needs to be a matter of choice, to the extent that you are able to choose times for writing. After all, you choose when to eat and when to sleep. Don’t try to write when you are least rested and alert, or likely to be distracted (Hjortshoj 2001).
2. If you are in the habit of doing your dissertation writing late at night, examine your motivation for writing then. You might simply be continuing old undergraduate habits instead of choosing to do your writing during the day when you are not too tired to think clearly.
3. Hjortshoj suggests that students should decide when to schedule their time for writing based on actual conditions rather than on habit. Whereas an undergraduate may need to write at night, a graduate student might be more alert and productive during the day (2001).
4. Keith Hjortshoi (2001) points out that students often choose times to write based on old habits and time constraints of undergraduate days when students tended to write in the evening or late at night. He recommends writing during the day rather than when you are least rested and alert, or more likely to be distracted.

Analysis of the four responses

1. The times graduate students choose for writing are often based on old habits and time limitations. If as an undergraduate you wrote at night, you need to look at how your circumstances have changed to see if you are one of those people who really function best in the morning. Most professional writers work during the day. But your decision needs to be a matter of choice, to the extent that you are able to choose times for writing. After all, you choose when to eat and when to sleep. Don't try to write when you are least rested and alert, or likely to be distracted (Hjortshoj 2001).

The underlined portions are not sufficiently changed. Although some words are changed, “people” to “graduate students” in the first sentence and “majority of professional writers” to “most professional writers,” much of the paraphrase is taken word for word from the source. Even though the source is cited, this is clearly **PLAGIARISM**. Another problem: the attempted paraphrase is too long and summarizes unimportant points such as choosing when you eat or sleep.

2. This may look like a good paraphrase, but because the source is not cited, it is **PLAGIARISM**.
3. This is an acceptable **PARAPHRASE**. It summarizes the major points about choosing writing times based on current circumstances rather than on undergraduate habits. It suggests choosing to write during the day, but with the use of “may” and “might,” it also recognizes that a single approach won't work for all.
4. Keith Hjortshoi (2001) points out that students often choose times to write based on old habits and time constraints of undergraduate days when students tended to write in the evening or late at night. He recommends writing during the day rather than when you are least rested and alert, or more likely to be distracted. **PLAGIARISM**. Even though the source is cited, the underlined portions are all taken word for word. Changing the verb tense of “tend” to the past tense of “tended” is not sufficient change. And notice that the author's name is not spelled correctly.

Frequently asked questions

1. When don't I have to cite the source for information?

You don't have to cite basic knowledge that is found in two or more textbooks. But neither can you use it word for word—you must paraphrase. The exception would be something like a common formula or algorithm; those you would have to use as they appear in the source. Just because 2000 people have read it on Wikipedia, that doesn't make it “basic knowledge.” It's basic if it is found in a number of reputable sources.

2. What if I'm using a common method that's difficult to reword? Do I have to cite the source?

If you use it word for word rather than paraphrasing it, you must cite the source. Many authors simply refer the reader to a paper that contains a clear explanation of the method instead of copying the method. I know of an Assistant Professor who was denied tenure for taking a commonly used method word for word from a published paper.

3. How do I cite a source that I read about in a different article, a review article, for example?

You will have to cite the source as well as the review article. However, as a scholar, you should read the original article instead of relying on what someone else says about it. Reviewers are not equally good, and even a good reviewer may be focusing on different

aspects of the article than you need. The exception would be an article originally published in a language you can't read or an article that is no longer available. In such cases you must make clear that it is the reviewer's interpretation that you are citing.

4. What do I put in the Bibliography or Works Cited?

Everything you cited and nothing that you did not cite.

5. What should I do if I have an important quotation or a really relevant figure, but I can't remember where I found it?

See if you can track it down via the Internet. If you can't find it, you can't use it.

6. Can I cite my own previously published paper in my thesis or cite my thesis in a paper I'm submitting for publication?

Of course, but ask the journal for permission, unless your contract with the journal already gives you permission to use the article in your thesis. You don't need to ask the other authors for permission because every author listed on a published paper has equal copyright ownership, but you should acknowledge their contributions. (Some departments require you to ask permission—be sure to check.) If you were first author and are now using essentially the entire paper as a chapter in your Master's or PhD thesis, make clear at the outset of the chapter that it comes from your paper (cite it clearly!). Then several times in the chapter, cite it again. If you use any figures or tables from the published paper, cite those as well at the end of the caption.

See #4 on page 2 for how to write and publish a paper based on previously unpublished research in your thesis or dissertation. Your advisor can request that your thesis be "embargoed" (meaning that Rice will not put it in open electronic source form for 6 – 12 months) so that you can write and submit a journal paper.

7. Can I cite or publish something of mine that I have already posted on the Internet?

Anything you have posted on any portion of the Internet is already copyrighted and therefore published. You can use that material in your thesis, but most journals will not accept anything that has already been "published" on the Internet. Once your paper has been published, though, you can put a link to it on your personal website.

8. When do I have to get permission to quote or paraphrase someone else's work?

In the academic world, this is sometimes a gray area. You usually don't have to get permission for use if you are writing a paper for a class, a Master's thesis, or a PhD dissertation, though you must cite the source. And because being cited helps faculty receive tenure or academic awards, most researchers are delighted to be cited. Because a journal usually owns the copyright of a published paper; you must ask the journal for permission to cite a written portion or a visual for anything you are submitting for publication (including your thesis or dissertation), including a paper in a *Proceedings*. If your paper comes out of funded research, you may need permission to publish what might be considered the intellectual property of the funding agency.

Modified from an original document by Janice L. Hewitt, PhD

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If electronic source: URL (may be required by your advisor or professional journal); DOI (digital object identifier) if available or name of database or document number; date retrieved. PUT QUOTATION MARKS AROUND ANY IMPORTED BLOCK OF TEXT so that you won't later think it is your wording.

Key Words (Be precise, not general):

Specific subject:

Authors' Hypothesis or Claim (What do they say they are presenting that is new?):

Method(s):

Result(s):

Evidence:

Summary of key points: Use quotation marks around any exact wording.

Context and relationships (How does this article relate to YOUR work and to other research? Needed for a lit review):

Important Figures and/or Tables (brief description; page number):

Cited References to follow up on (Cite those obviously related to your topic AND any papers frequently cited by others because those works may well prove to be important as you develop your own work):

Your evaluative comments on the work: For example, does the paper clearly identify its contribution to the field? Is the method used an appropriate one? Do the results match the claim? Is the evidence sufficient and convincing? What flaws do you see in the paper? What strengths? How can this paper be helpful to your own research and/or writing?

Janice L. Hewitt, PhD, Brown School of Engineering, 2014 jhewitt@rice.edu

When should I reference something?

Give a reference if

- its someone else's idea
- its some one else's technique
- its some one else's observation

Disruption of xxx blocks the yyy pathway in Arabidopsis (Smith and Jones, 2003). Because of their similarity to xxx, the abc kinases may be part of the yyy pathway (Doe, 2005). To test this, I will use homologous recombination (Jones and Smith, 2001) to disrupt abc1 and determine if this blocks the yyy pathway.

You could leave the reference off of the second sentence only if this is completely your idea, and was not published by someone else or told to you by someone else. So if Doe mentioned this idea to you but never published it, you would write:

Because of their similarity to xxx, the abc kinases may be part of the yyy pathway (Doe, personal communication).

A good rule of thumb is that each sentence in an introduction needs a reference; sometimes a sentence clearly continues the description of the work in a previously referenced sentence and then doesn't need a reference .

How do I reference material from a review article?

Sometimes you get a review article (Epsilon, 2008) that reads something like

The abc kinases were first discovered by Alpher (Alpher, 1982). There are 15 abc kinases (Beta, 2007). There are two types of abc kinases, type I and type II (Gamow, 2006). The type I but not the type II abc kinases are present in plants but not in animals or fungi (Delter, 2008).

If you paraphrase the above section without reading the four articles, and/or without referencing the review article, you will be in trouble. If you didn't read the 4 original papers, you should only reference the review article:

Two types of abc kinases have been described (see Epsilon, 2008 for review).

If you read the 4 original papers, and in your writing you follow the general outline or format of the review paper (or any other document), you need to reference the review paper or document.

A recent review Epsilon (Epsilon, 2008) describes how Alpher first identified abc kinases (Alpher, 1982), and that are 7 type I and 8 type II abc kinases (Gamow, 2006; Beta, 2007).....