Biology
Graduate
Student
Handbook

Fall 2017
TABLE OF CONTENTS:
Welcome Letter from Department Chair: Dr. Laura Burrus
Biology Contacts

General Requirements for Degree (Red Tab)
- Biology Department Graduate Policy - Sign at Orientation
- Requirements for MS Degree - Biology
- Sample 2-Year Graduate Student Requirement Timeline
- Steps to Graduate - Degree Checklist
- Thesis Committee - FAQ
- Graduate Student Deadlines

Important Documents, Forms (Green Tab)
- List of Important Documents
- First Semester Check List
- Prospectus Guidelines
- Prospectus Outline
- Prospectus Rubric
- Thesis Prospectus Signature Sheet - Example
- (ATC) Advancement to Candidacy - Example
- Project Report Guidelines for Biology 895
- Proposal for Culminating Experience (895) – Example
- Project Report Guidelines for Biology 898
- Proposal for Culminating Experience (898) - Example
- Human and Animal Protections
- Day of your Defense Forms & Documents Needed
  - Report of Completion - Example
  - Abstract - Example
  - Graduate Division & Bursar's Receipts - Example
  - Petition for Grade Change - Example
- Culminating Experience Continuous Enrollment Information
- Applying for Graduation Information
- Biology Department FAQ

Manage Your Degree (Blue Tab)
- Individual Development Plan Information
- Implementing Individual Development Plans
- List of Electronic Resources to help make your own IDP
- Individual Development Plan Form
- American Society for Cell Biology Article “A shared vision of Mentoring from Different Perspectives”
- SF State Biology Mindset is the Growth Mindset
- Savvy Psychologist Article “What is impostor Syndrome?”

Scholarships and Opportunities (Yellow Tab)
- Graduate Teaching Assistant (GTA) Information
- Biology Department Scholarships
- COSE Scholarships
- SEO Fellowship Opportunities
July 28th, 2017

Dear Colleagues,

Welcome!!! We are delighted that you have chosen to pursue your Master’s studies in our department. While California is fortunate to sustain tremendous biological diversity, the department of biology prides itself on being home to students, faculty and staff from diverse cultural and ethnic backgrounds. We welcome people from all cultures, socioeconomic backgrounds, races, ethnicities, nationality, genders, sexual orientations, ability levels, neurotypes, sizes, religions, ages, family structures, and political opinions. We welcome all aspiring biologists who want to make a positive contribution to their communities and to the world. We strongly believe in the potential for people from many different backgrounds to come together, learn from each other, and to make a difference.

Though some of you may be feeling very confident as you enter into this new chapter of your life, others may be apprehensive and uncertain about what to expect. One of the first things you will learn about the department is that the faculty and staff care deeply about our students. We are here to support your academic and personal growth. Please feel free to reach out to any of us if you have questions or need some support.

In addition to your faculty mentor, you will find that Dr. Diana Chu, the director of the biology graduate program, is an excellent source of information. All of our office staff (Alvina, Amber, Giovanna, Jee, and Julius) are here to help as well. We invite you to visit the Department Office in Hensill Hall, room 534, to contact us by phone (415.338.1548) or to e-mail us (biograd@sfsu.edu). Perhaps the greatest resource that you will find in our department is your cohort of classmates. Like you, these students hail from diverse backgrounds, have a variety of skills, and have voiced a willingness to work independently and together to advance science. As they will be your scientific peers and colleagues for the next two years and beyond, we urge you to cultivate your relationships with these exceptional colleagues.

You are here today because we saw tremendous potential in you through your application for our graduate program. Faculty and staff are here to challenge, inspire, and work with you. We are looking forward to tapping into that potential, helping you grow as a critical thinker, and cultivating your curiosity as a biologist. Whether your long-term objective is to be involved in research, education, science policy, medicine, ecological restoration, biological diversity preservation, or any of a number of other careers, I urge you to discuss your career aspirations with your faculty mentor so that they can effectively guide you toward that goal.

Today, more than ever, the world needs people who support evidence-based policies and a willingness to make a difference through science. As a student in the Biology department, you will learn how to
collect and critically evaluate scientific evidence. This experience will prepare you for a myriad of leadership positions in our society. It’s a marvelous honor, but it comes with the obligation to act every day with the utmost integrity and professionalism. We are here to help you do that.

I will look forward to getting to know you and watching you grow over the next couple of years!

Best wishes,

Laura Burrus, Ph.D.
Professor and Chair, Department of Biology
1600 Holloway Avenue
San Francisco State University
San Francisco, CA 94132-1722
lburrus@sfsu.edu
http://userwww.sfsu.edu/~lburrus/

Courage • Life of the Mind • Equity • Community • Resilience

Principal Investigator, NSF RUI Award: Characterization of Porcupine Membrane Topology and Palmitoyl Acyltransferase Activity
Principal Investigator, CSUPERB: Mechanisms of WNT1 Gradient Formation in the Chick Spinal Cord
Principal Investigator, SF BUILD Mini-grant: Analysis of the Role of Wnt Palmitoylation in Triple Negative Breast Cancer
Biology Contacts

Dr. Diana Chu – Graduate Coordinator, Cell & Molecular Biology, Microbiology Coordinator
chud@sfsu.edu (415) 405-3487

Dr. Lily Chen – Coordinator for Professional Science Master (PSM)
lilychen@sfsu.edu (415) 338-6763

Dr. Andy Zink – Coordinator for Ecology, Evolution, & Conservation Biology
zink@sfsu.edu (415) 338-6997

Dr. Carmen Domingo – Coordinator for Cell & Molecular Biology Stem Cell Emphasis (CIRM)
cdomingo@sfsu.edu (415) 338-6995

Dr. Megumi Fuse – Coordinator for Physiology
fuse@sfsu.edu (415) 405-0728

Dr. Karen Crow – Coordinator for Marine Biology
crow@sfsu.edu (415) 405-2760

Dr. Ellen Hines – Coordinator for Marine Science/RTC/RIP TIDES
ehines@sfsu.edu (415) 338-3512

Giovanna Tuccori – Graduate Secretary
gmt@sfsu.edu (415) 405-3591
General Requirements for Degree
Biology Department Graduate Policy

The following policies have been adopted by the Faculty of Biology, San Francisco State University. They are within, and sometimes may extend beyond, the policies set forth by the SFSU Graduate Division policy. All Graduate Students are required to sign and submit the Biology Graduate Policy Signature Page (last page), attesting that they are aware of and accept all expectations of the policy. The signed copy will be retained in the Biology Department Office Student's File, Hensil Hall 534.

Acceptance into the Graduate Program in Biology

Minimum Qualifications:

- Bachelor's degree (not necessarily in Biology) (UP)
- Lower and upper division - course work equivalent to that expected from a bachelor's degree in the area of biology in which the student plans to do graduate work.
- Minimum grade point average of 3.0 in last 60 semester units (90-quarter units).
- Graduate Record Exam — General Test scores
- Acceptance by a SFSU Biology Tenure-Tenure Track/CAS Research Professor/RTC Research Professor. No student will be accepted into the program without a sponsoring advisor. The accepting advisor will retain ultimate responsibility for all phases of the student's graduate career.

Classified Graduate Students

Students who are accepted into the Department of Biology are considered Classified Graduate Students. Unclassified Graduate Students are actually post-baccalaureate students accepted by the university but not matriculating toward a graduate degree in the Department of Biology.

Conditionally Classified Students

Occasionally classified graduate students are accepted conditionally (but are still classified). Conditions are set by the graduate coordinators. Graduate students must satisfy all conditions prior to filing their GAP.

Progress in the Program

Research

SFSU Biology graduate students must enroll in at least one research unit (Biology 897) every semester in which they are conducting research (includes lab, library, and field research). (UP) Graduate students should discuss with their advisor the number of research units taken and expectations for work to be completed for these units before enrolling in Biology 897.
Grades
SFSU Graduate students must maintain a 3.0 (minimum) grade point average throughout their graduate career. (UP) It is the responsibility of the advisor to determine the grading system for Biology 897 course work. This should be discussed clearly with the student prior to enrolling in the course.

Academic Probation (UP)
Students who do not maintain a minimum GPA of 3.0 are placed on academic probation (see university bulletin). Students who fail to recover from academic probation are subject to declassification (i.e., dismissal from the Biology Graduate Program). Continuous enrollment in the University (UP) To remain a continuing student, all SFSU students, including Graduate Students, are required to enroll at least every other semester. Graduate students who remain unenrolled for more than one semester are dropped from the University, hence from the graduate program in biology.

Advisors and Thesis Committees
The Faculty of Biology at San Francisco State University have discretion over all graduate matters. They set policy and expectations, and have final say over any decisions regarding graduate thesis research, publications, and items pertinent to their graduate advisees. There is implicit agreement to this policy on the part of graduate students and graduate faculty upon the acceptance of a graduate student by a faculty member.

Roles of the Advisor

- Orient new Graduate students and introduce them to department/university regulations and expectations.
- Help define the student’s thesis project.
- Advise students on course selection and course load.
- Remind students of critical deadlines
- Advise the student on completion of important forms, including the Advancement to Candidacy (ATC), Culminating Experience Proposal Form (895: Field Study or Applied Research OR 898: Thesis), Animal or Human Subjects Protocol Forms, and Thesis Prospectus.
- Sign student forms in a timely manner.
- Advise students on seeking funding to support research and education.
- Maintain a clear and helpful line of communication with the graduate student, with special regard to the advisor’s and thesis committee’s expectations of the student.
• The advisor shall have complete discretion over the content of the graduate student’s thesis research.

• Promote professional development of graduate students; encourage participation in workshops, attendance at professional meetings, presentation of posters and papers, communication with colleagues in their field.

Committee Membership

• Minimum 3 committee members (exceeds University minimum of 2)

• Minimum 2 must be SFSU Biology Tenure/Tenure Track/CAS Research Professors/RTC Research Professors

• Outside reader (non-Biology Tenure/Tenure Track/CAS Research Professor) must be third signature on thesis (UP)

Communication between Faculty and Graduate Students

The Department of Biology seeks to foster an environment of open discussion of all issues at all times. Faculty advisors and graduate students have a right and an obligation to express their own expectations and to hear the expectations of the other party. Effective, early, and regular communication will generally eliminate or defuse disputes between graduate students and advisors, and bring clarity to issues of concern.

There are occasional situations in which the advisor-student relationship may be terminated prior to the student’s completing their M.A. These are...

Students Leaving Labs Voluntarily
Graduate students are not obligated by the Department of Biology to remain under the direction of the advisor who accepted them; however, a student who leaves an advisor shall be allowed one full semester to relocate to another advisor. It is the student’s responsibility to find a new advisor. If the student has not succeeded in doing so within one full semester (i.e., the full semester immediately following the student’s departure from the original advisor’s directorship), the Graduate Committee shall initiate decalification procedures under the aegis of “...performance, progress... judged by appropriate University authorities to be unsatisfactory...” Students who elect to leave an advisor’s directorship must notify the advisor and the Department Graduate Coordinator in writing.

Students Who Are Dismissed from Graduate Labs by the Advisor
Biology faculty advisors are not obligated to retain graduate students who fail to meet the advisor’s (or department’s) requirements, standards, and expectations. If an advisor determines that a graduate student has failed to meet the standards of that advisor’s lab, s/he may dismiss the student from the lab.

Failure to meet the advisor’s standards includes but is not limited to:
Failure of the student to meet expectations of scholarship and deadlines set by the advisor.

Disruption of the educational and/or interpersonal environment of the lab.

Unresolvable differences (personal and/or professional) with the advisor.

Prior to dismissing a graduate student from a lab, the advisor and student should make every attempt to resolve the problem. Suitable warning of potential dismissal of the student should be given well in advance. Faculty who dismiss students from their directorship must notify the student and the Department Graduate Coordinator in writing. A student who is dismissed by an advisor shall be allowed one full semester to relocate to another advisor. It is the student’s responsibility to find a new advisor. If the student has not succeeded in doing so within one semester (i.e., the full semester immediately following the student’s departure from the advisor’s directorship), the Graduate Committee shall initiate declassification procedures under the aegis of “...performance, progress ... judged by appropriate University authorities to be unsatisfactory...” Graduate Students advanced to candidacy: If a student relocates to another advisor, irrespective of reason, they must file a “Revised Culminating Experience Proposal” form. This does not apply to students who have not yet filed a “Culminating Experience Proposal” form.

Rights of Students and Advisors

Ownership of Research
Prior to entering the graduate program in biology, students should meet with their advisor to discuss clearly any issues of ownership of research conducted by the graduate student. If the advisor has an obligation to an agency or other resource that is funding research involving a student’s thesis, the nature of this obligation must be made clear to the student prior to the student beginning her/his thesis work. Such obligations must apply to the student as well. Often an advisor will have an ongoing or long-running research program, in which a graduate student may become involved for her/his M. A. thesis research. In these cases, it is expected that the student and advisor will agree on the nature of the “research ownership” prior to the undertaking of the research by the student. If a graduate student relocates from one advisor to another, the student may take their research project with them only upon agreement of the former advisor and new advisor. It is the student’s responsibility to seek accord between advisors.

Authorship
Issues of authorship or co-authorship on publications resulting from student theses should be resolved prior to the student initiating the research. Each advisor should set a policy on authorship and articulate it to each new graduate student. Timely progress is expected toward publication of thesis research that is part of the advisor’s own research program. If a student fails to make timely progress toward publication, the advisor may choose to assume an active authorship role and, accordingly, refine the authorship.

Thesis Copyright
Graduate students are allowed to copyright their thesis; however, copyright issues must
be discussed openly with the advisor and other faculty involved prior to the thesis being filed.

**Harassment and Misconduct**

The Department of Biology adheres completely to the Sexual Assault Policy, the Sexual Harassment Policy and Procedures, and Student Conduct/Discipline Policy as set forth in the University Bulletin. Charges of violation of these policies shall be forwarded to the appropriate campus office.

**Appeals Procedures**

The role of the Department of Biology Graduate Committee in the appeals procedures is to ensure that all proper steps were taken and that adequate communication was made among all parties concerned. The Graduate Committee's role is to interpret and communicate Department and University policy to the parties concerned. The Graduate Committee shall decide if an appeal warrants a personal meeting with the parties concerned. Once apprised of an issue warranting the attention of the Graduate Committee, the Committee shall make every attempt to act and respond within a two-week period during the normal semester.

After reading this policy, please sign below (your copy) and on the next page. Please turn in the next page after you have signed it. The signed form must be in your graduate file before your ATC and Culminating Experience Form is processed.

______________________________Signature

______________________________Print your name here
Biology Department Graduate Policy
Signature Page

I have read the Department of Biology Graduate Policy provided to me in the Biology Graduate Student Handbook. These policies have been adopted by the Faculty of Biology, San Francisco State University. They are within, and sometimes may extend beyond, the policies set forth by the SFSU Graduate Division.

By signing this form, I attest that I have read the Department of Biology Graduate Policies. By signing, I also affirm that I am aware of and accept all expectations of the policy.

A signed copy of this page will be retained in my student file in the Biology Department Office.

___________________________ Signature

___________________________ Print your name here

___________________________ Date
Sample 2-Year Graduate Student Requirement Timeline

This is based on a two-year model. Individual students may take longer to complete their research.

First Semester
1. Take the First level English Proficiency Exam given at Biology Department Orientation.
2. Sign the Department Graduate Student Policy at the Biology Department Orientation.
3. Move from Conditionally Classified to Unconditionally Classified (consult with your advisor about conditions specific to your situation).
4. File an Animal/Human Subjects Protocol Form (if required). Note that filing this form requires that you file your Culminating Experience Form at the same time. Discuss this with your advisor immediately if you work with vertebrate animals.
5. Meet with your research advisor regularly.
6. Assemble a thesis/project committee and communicate with your committee about your goals and timeline.

Second Semester
1. Meet with your research advisor regularly.
2. Assemble your thesis project committee. Get their advice about your project.
3. File your Thesis/Project Prospectus that has been approved by your thesis/project committee. The approved prospectus is due June 1st.

Third Semester
1. Meet with your research advisor regularly.
2. File your Advancement to Candidacy (ATC) form before October 1st.
3. File your Culminating Experience form before October 1st.

Fourth Semester
1. Enroll in Biology 895 or 898. You must have your ATC and Culminating Experience forms on file at the Graduate Division to be permitted to enroll in Biology 895 or 898.
2. Meet with your thesis/project committee.
3. Write, Defend, and File your Master’s thesis/project.
4. Complete the Report of Completion and a Grade Change form (if necessary). This is the final stage of completing your M.S. Degree.
5. Apply to graduate.
(http://grad.sfsu.edu/grad/content/current-students/award-degree).
Requirements for MS Degree – Biology

30 units
• 15 units from exclusively graduate courses (700-899 level)
  ▪ A minimum of 4 units must be from seminars (Biology 861-866) (requires a 45 minute oral presentation)
  ▪ A maximum of 4 units may come from colloquium (Biology 871 or 872)
  ▪ A maximum of 6 units may be Independent research (Biology 897)

• 6 units may be from graduate courses or paired courses (grad students must always register for the graduate member of the paired course)

• A maximum of 9 units may come from upper division courses

• You must enroll in Biology 898 (4 units, formal) or Biology 895 (4 units, unstructured) the semester you want to graduate (except summer).

Animal/Human Subjects Protocol Form
• Only applies to research using vertebrates. Consult with your research advisor in the 1st semester to determine if this form is necessary for your degree progress.

• File an approved Animal (or Human, when applicable) Subjects Protocol Form prior to your conducting any work on vertebrate specimens: http://biology.sfsu.edu/content/animal-and-human-subjects-protocol-form

Graduate Committee
• You should begin form your graduate committee during your first semester. The graduate committee consists of at least 3-faculty members

• Two tenured or tenure-track faculty of Biology at SFSU (the 3rd member may be from off campus, e.g.: UCSF). If one of your committee members is from another campus, you must provide a CV for the individual when filing your ATC and CE forms.

• The Major Advisor must be a faculty member of the SFSU Biology Department, Research Faculty at the California Academy of Sciences, or Faculty at the Romberg Tiburon Center

Thesis Prospectus
• Expectations vary by professor – check with your advisor and also see outline provided
• Due: June 1 (for graduation the following spring semester) to the Biology Department Secretary.

Advancement to Candidacy (ATC)
• Identifies ALL courses you have taken or plan to take to complete degree requirements.

• Must be filed to the Biology Department Secretary the semester before you enroll in 895 or 898 (not in summer), typically your third semester. The written thesis is fulfilled by submitting EITHER Biology 895 OR 898. Please consult with your research advisor to determine which is the most appropriate for your field and your project.

• Due: October 1 (for graduation the following spring semester) to the Biology Department Secretary.

Culminating Experience Form
• Title of your thesis (12 words or less)
• Summary of thesis project to Graduate Division
• Thesis committee established
• If your thesis research requires an Animal/Human Subjects Protocol Form (see below), the Culminating Experience Form must be filed with the Protocol.
• Due: October 1 (for graduation the following spring semester) to the Biology Department Secretary.

Written Thesis or Project Report
• Certificate of Approval Page in the written thesis must be signed by all committee members. It is required that you submit your thesis at least 2 weeks prior to your defense date, unless previously arranged with each of them.

The written thesis is fulfilled by submitting EITHER Biology 895 OR 898. Please consult with your research advisor the semester before completing your ATC and CE forms to determine which is the most appropriate for your field and your project.

• Biology 895 (Field Work or Research Project): (4 units) unique to each project, but often quite succinct and in formal publication format. Start work in consultation with your advisor and committee to determine exact format.

• Biology 898 (Thesis) (4 units) specific formatting required by the Graduate Division (e.g. margins, type of paper, etc.) and generally very comprehensive (http://grad.sfsu.edu/sites/sites7.sfsu.edu.grad/files/assets/forms/thesis-dissertation-guidelines.pdf).

Thesis Defense
• It is required that you post fliers announcing your defense in Hensill Hall at least one week prior to the defense date.

• Work with your committee to schedule a date for your thesis defense. Reserve a room for your defense with the Biology Graduate Secretary.

• Report of Completion of Specified Graduate Program Requirements form (get this form from the Biology Office). This form must be signed by your committee on the day of your defense.

• See the biology department graduate secretary for all the forms you will need on the day of your defense.

Steps to Graduate Degree Checklist

Your First Semester

□ First Year English Proficiency Exam (during biology department orientation).

□ Sign the Graduate Student Policy (during biology department orientation).

□ Meet with your program advisor:
  Name: __________________________ Email: __________________________

• Estimate plan of course work from first semester to graduation to fulfill degree requirements (see example 2-year plan).
• Make preliminary plan for expected date of graduation. Establish a timeline for completing research and course goals to fulfill graduation requirements.

• Estimate from current deadlines listed on the Biology and graduate studies websites when you will need to:
  - Submit ATC (your third semester)
  - Submit Culminating Experience Proposal (your third semester) (with Human or Animal Research Protocol, if required)
  - Enroll in Culminating Experience Course (the semester you wish to graduate)

• Assemble a Thesis Committee

• Decide upon Biology 895 Research Project or Biology 898 Thesis

Each semester until you graduate:

☐ Check online Class Schedule or Academic Calendar. Mark dates on your Calendar for Add/Drop Withdrawal Deadline.

☐ Meet with your Advisor (at least twice every semester) to discuss progress of coursework, research, and future goals.

☐ Adjust estimates of time to graduation and plan for ATC, CE, and/or Application for Award of Degree.

☐ Consult with your committee members at least once per year.

The semester before you plan to enroll in your culminating experience (typically 3rd semester)

☐ Complete and submit your Thesis Prospectus with committee approval.
  Date Submitted: ____________

☐ Submit Advancement to Candidacy (ATC)
  Date Submitted: ____________

☐ Submit Culminating Experience Proposal (Biology 895 OR 898)
  (with Human or Animal Research Protocol, if necessary)
  Date Submitted: ____________

  Keep copies of the above documents.

Your Last Semester

☐ Enroll in Culminating Experience Course (Biology 895 or Biology 898)

☐ Complete oral defense
  • Assemble Committee

  • Book a Room

☐ Complete the Biology Exit Survey on the Biology Website.

☐ Submit Application for Award of Graduate Degree and pay fee. See the Graduate Studies website for deadlines. 
http://grad.sfsu.edu/grad/content/current-students/award-degree

**IMPORTANT**

☐ If you do not complete your Biology 895 or 898 course within a 2-semesters period, you are required to enroll in CEL 0499 each proceeding semester until you have completed your requirement.
The Thesis or Graduate Committee FAQs

What is the Thesis Committee?

The Thesis (or Graduate) Committee consists of three faculty members who can advise you on your academic progress and research while at SFSU. It is composed of 3 faculty members (2 must be SFSU tenure-track faculty in Biology) that can advise you on the research you are conducting for your thesis.

Who should be on my Thesis Committee?

Your research advisor should be the Major Advisor or primary committee member. The Major Advisor must be a faculty member of the SFSU Biology Department, Research Faculty at the California Academy of Sciences, or Faculty at the Romberg Tiburon Center.

Then you get to choose the other two people on your committee. Your committee must have at least two tenured or tenure-track faculty of Biology at SFSU. The 3rd may be from another department like Chemistry or another institution like UCSF or UC Berkeley. If one of your committee members is from another institution, you must provide a CV for the individual when filing your ATC and CE forms.

Things to consider in choosing your committee members:

1) They advise you about your research project. Thus, you can choose people based on scientific expertise. Who will be able to give you additional insights that your research advisor might not? Work with your advisor to identify people with the expertise you will need to put together a strong research project.

2) They are great people to write your recommendation letters. They will get to know your research by reading and approving your prospectus and thesis. They will interact with you at committee meetings and other events. You might also have had them as an instructor in a course where you demonstrated your capabilities.

3) They are advocates for you. The reason there is a committee is so that there are 3 people who can help decide what is fair and reasonable in any situation. If one of your committee members is not being reasonable, you can discuss this with your other committee members.

When should I form my Thesis Committee?

You should begin to form your committee during the first semester. This will ensure that you can take advantage of their advice regarding your research project.

You are REQUIRED to form your graduate committee by the end of your 2nd semester. Your committee must approve your theses prospectus by June 1.
How do I ask people to be on my committee?

Start by emailing your potential thesis committee member; introduce yourself, tell them what lab you are in, and about your research interests. Ask if he/she would be willing to serve on your committee and describe WHY you have asked this person in particular. Include a CV and research description if you can with your original inquiry and ask to set up a short meeting to discuss it. Follow up in a week or so if you do not hear back. Many faculty members are busy so they need reminders.

When should I meet with my Committee?

1st semester: Meet with your major advisor frequently and define your research project.

2nd semester: form your research committee and have at least one committee meeting to go over your research plan and prospectus.

You need to give your committee at least TWO WEEKS to read your prospectus. They will give you feedback and comments that you will need to address. After you have revised your prospectus to their approval, then you can get their signatures.

-Remember that a committee meeting is beneficial to YOU. You get practice presenting your work to experts. Your committee will help you to refine your plans to an achievable and effective research plan. Having your committee together helps form reasonable expectations for completion.

3rd semester: Meet with your committee and discuss your results and your timeline for graduating. Be sure to talk with them about your long-term career goals to get advice.

4th semester: Inform your committee about your timeline for giving them your written thesis. Your committee members need TWO WEEKS to read your thesis BEFORE your oral defense.

Work with your committee to schedule a date for your thesis defense. Plan to do this at least TWO MONTHS before you plan to defend to make sure you have a room available to defend and that you have reserved a time that all of your committee members are available.

Do your thesis defense and obtain their signatures of approval.
Graduate Student Deadlines
Important Graduate Deadlines — Department of Biology
Required paperwork for enrolling in Culminating Experience course (BIOLOGY 895 or 898)

☐ **Thesis Prospectus**
Typically due at the end of your second semester, no later than June 1. Please communicate with your committee members about their schedules at least one month in advance. Plan to give them a minimum of 2 weeks to review and approve your thesis prospectus.

☐ **Advancement to Candidacy (ATC) and Proposal for Culminating Experience**
These forms are due the semester prior to semester you plan to graduate. If your goal is to graduate in Spring 2019, these forms are due Fall 2018.

☐ For additional deadline, please visit the Division of Graduate Studies, Continuing Student deadline page: [http://grad.sfsu.edu/content/student-deadlines](http://grad.sfsu.edu/content/student-deadlines)

<table>
<thead>
<tr>
<th>Document</th>
<th>Graduating in Spring 2018</th>
<th>Graduating in Fall 2018</th>
<th>Graduating in Spring 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Due Biology Department</strong></td>
<td>Due Graduate Division</td>
<td>Due Biology Department</td>
<td>Due Graduate Division</td>
</tr>
<tr>
<td><strong>Thesis Prospectus</strong></td>
<td>June 1, 2017</td>
<td>November 1, 2017</td>
<td>June 1, 2018</td>
</tr>
<tr>
<td><strong>Advancement to Candidacy (ATC) and Proposal for Culminating Experience (PCE)</strong></td>
<td>October 1, 2017</td>
<td>November 1, 2017</td>
<td>October 1, 2018</td>
</tr>
</tbody>
</table>
Important Documents
Forms
Examples
List of Important Documents

First Semester Check List

Thesis Prospectus
  - Guidelines
  - Outline
  - Rubric
  - Example

(ATC) Advancement to Candidacy Form - Example

Biology 895
  - 895 Project Report Guidelines
  - Proposal Culminating Experience 895 - Example

Biology 898
  - 898 Project Report Guidelines
  - Proposal Culminating Experience 895 – Example

Research Protocol Guidelines

Day of Defense Paperwork
  For 895
    - Report of Completion
    - Abstract with Signatures
  For 898
    - Report of Completion
    - Graduate Division & Bursar’s Receipt

Grade Change
First Semester Check off List
Please complete this form by Feb 1st and turn it in to the Biology Office.

Student Name: __________________________

Major Advisor Name: __________________________

Please sign below after the student and advisor have reviewed the student’s Independent Development Plan (IDP) or an equivalent document for advisement on plans for the student to achieve his/her short-term and long-term goals.

Student: __________________________

Advisor: __________________________

Date(s): __________________________

Please list your Committee Members.
Note if they have confirmed (C) or if they are pending (P):

__________________________

Prospectus Completion Date (the prospectus is due June 1):

__________________________

Expected Graduation Date:

__________________________

Department of Biology
Thesis Prospectus Guidelines

The Prospectus has two important roles.
1) It serves as the second-level English Proficiency assessment required of all CSU graduate students.

2) It articulates the graduate student’s research plan and progress to their graduate committee members. Please be sure to meet with your research advisor for guidelines specific to your field of study.

**Prospectus Format**

**Name, Title, and Abstract page (1-2 pages)**

Please state the date, your name, and the title of your thesis and include an abstract. The abstract should be less than 500 words. (Sample found on page…)

**Research Plan (4-10 pages that includes figures)**

*Significance and Background:* This section should include key findings that lead up to your work. Please avoid an exhaustive review of the literature and instead focus on important papers in your field that put your work into context. The section should funnel information from broad to narrow. It should also define information that sets up an important problem you will address and your hypothesis.

*Problem Statement:* This should be a short section that succinctly states what information is missing in your field of study that will be addressed by your work.

*Hypothesis:* A hypothesis is a statement about what will learned about your topic of study based on your work. Please avoid posing questions or stating your expected results. Instead craft this based on what specific knowledge you will learn about your topic of study.

*Aims:* Consider experimental aims in the context of how much time you plan to be in your degree program. You can also instead consider posing questions to be addressed. Typically 3 aims are reasonable. The aims should tie back to addressing your overall hypothesis. You can also pose a “working hypothesis” to set up each aim.
Research Design (each aim can be divided into sub-questions)

- Rationale (here is where you can set up a sub-questions or working hypotheses that achieve your the aim or address the hypothesis)
- Methods (include control conditions/comparisons to show your results are meaningful)
- Anticipated Results or Findings
- Preliminary Results
- Conclusions (how will your results address your aim or question?)

A timeline for completion of the aims: Your committee will need to evaluate if what you have described is achievable in the time frame proposed. Evaluating your preliminary results, what you have left to do, and your anticipated time frame is important for this evaluation.

Overall Conclusions: In this section, consider how your findings will impact your field. How will your findings address the problem you posed? What new will be learned that was not known before?

References (not included in page count)
The prospectus must be written using standard 8.5” x 11” page size, 12-point, Times New Roman font OR 11-point Arial font, 1” margins on all sides, and must be single spaced or greater. References, figure legends, and footnotes may be a smaller font, no less than 10-point Times New Roman or Arial font.
Thesis Prospectus Outline

Title:

Student:

SFSU ID:

PI:

Abstract

Key words:

Project Summary:

Background/Significance: (include figures if appropriate)

HYPOTHESIS:

Specific Aims:
Aim 1:
Aim 2:
Aim 3:

Experimental Design

Aim 1:
Rationale:
Experiments:
Expected Outcomes: (include actual data)
Potential Problems:

Aim 2:
Rationale:
Experiments:
Expected Outcomes: (include actual data)
Potential Problems:

Aim 3:
Rationale:
Experiments:
Expected Outcomes: (include actual data)
Potential Problems:

Conclusion/Significance

Future Directions:

Literature Cited:
Thesis Prospectus – Signature Sheet
Attach this coversheet, signed and completed, to your Prospectus

Student Name:
John Smith

Committee Signatures, attesting that the committee members have read and approved the Prospectus.

Dr. Tom Parker
Committee Chair (print name) (signature) & (date)

Dr. Andy Zink
Committee Member (print name) (signature) & (date)

Dr. Karen Crow
Committee Member (print name) (signature) & (date)

Title:
What happened to the last dodo bird?

Keywords:
On the line below write (print clearly) up to five keywords (single words please) that do not appear in the thesis title but that relate to your research. We will use these keywords as a search tool in the biology graduate student database.

bird, dodo, species
**ADVANCEMENT TO CANDIDACY**

**Master of Science**  
**Major: Biology**  
**Concentration or Emphasis (if applicable): Ecology, Evolution and Conservation Biology**

**Student:** Select the correct University Bulletin year you were admitted to the program:  
2015 - 2016

---

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Units Required</th>
<th>Units To Be Completed</th>
<th>Semester &amp; Year</th>
<th>Institution (not SFU)</th>
<th>Grade</th>
<th>In Progress Or To Do</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bio314</td>
<td>Plant Taxonomy</td>
<td>3</td>
<td>5</td>
<td>Fall 2015</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bio305</td>
<td>Comp Anatomy of Vascular Plant</td>
<td>4</td>
<td>4</td>
<td>Fall 2015</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bio300</td>
<td>Evo &amp; Diversity of Plants</td>
<td>4</td>
<td>4</td>
<td>Fall 2015</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bio571</td>
<td>Colloquium Eco Evo Conservation</td>
<td>2</td>
<td>2</td>
<td>Fall 2015</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bi 862</td>
<td>Advances in Ecology and Systematic Biology (topic)</td>
<td>2</td>
<td>2</td>
<td>Spr 2015</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bi 716</td>
<td>Skills in Science Writing</td>
<td>3</td>
<td>3</td>
<td>Spr 2015</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ge 856</td>
<td>Directed Reading/Surface Water Hydrology</td>
<td>3</td>
<td>3</td>
<td>Spr 2015</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bi 852</td>
<td>Developmental Biology</td>
<td>3</td>
<td>3</td>
<td>Spr 2015</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bio 882</td>
<td>Advances in Ecology and Systematic Biology (topic)</td>
<td>2</td>
<td>2</td>
<td>Fall 2016</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**3-6 Units of BIOL 897 (Research):**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Units Required</th>
<th>Semester &amp; Year</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bio 897</td>
<td>Research</td>
<td>2</td>
<td>Fall 2016</td>
<td>IP</td>
</tr>
<tr>
<td>Bio 897</td>
<td>Research</td>
<td>2</td>
<td>Spr 2017</td>
<td>To do</td>
</tr>
</tbody>
</table>

**One of the following Culuminating Experience Options:**


**Total Units:** 34

---

**Additional Degree Requirements:**

- [ ] Thesis Receipt  
- [ ] Report of Completion for Oral Defense

**Note:** For transfer work, a request for Graduate Program Transfer Unit Evaluation must be submitted.

- [x] Report of Completion for BIOL 895  
- [x] Report of Completion for Oral Defense

Only 30% of units listed on the Advancement to Candidacy may be upper division undergraduate coursework.

**GRADUATE MAJOR ADVISER:** Please check off below the manner by which this student has or will have satisfied Second Level written English proficiency in your graduate program, i.e. ability to write in a scholarly manner in the major field.

- [ ] Second Level to be Completed By:
  - A "Report of Completion" must be filed with the Division of Graduate Studies to indicate the Second Level Written English proficiency was met.
  - [ ] Thesis Prospectus

**GRADUATE ADVISER (Required):**

- Dr. Kevin Simonin

**GRADUATE COORDINATOR (Required):**

- Dr. Diana Chu

**Approve [x] Not approved [ ]**

Dean of the Graduate Division or Designee

**Note:** Upon approval of the ATC, read graduate Academic Policies and Procedures section in the Bulletin regarding conditions for maintaining its validity.
Biology 895
Project Report Guidelines

The Project Report for Biology 895 is used as the Culminating Experience for the Biology Master's Program. The goal of the Project Report is to present a written communication that conveys the relevance of the research question, the goals of the research, the data and findings, and the conclusions of the work.

Goals: In the Project Report, the student will demonstrate their capabilities in the following learning outcomes:

1) Analyze research articles to identify those in their field of study most relevant to their research project.

2) Evaluate data and interpret results to draw appropriate conclusions.

3) Present data in effective and understandable written or visual formats appropriate to the student's field of study.

4) Draw valid conclusions from data collected during research experiences and field projects.

5) Convey these abilities in writing in a format appropriate to the student's field of study.

It is important to note that the Project Report will not be made publicly available. The Project Report is approved by the Thesis Committee and Department but NOT archived and made public by the University Library. The abstract of the Research Report is submitted to Graduate Studies.

Format:
The format of the Project Report should be determined in consultation with the thesis advisor, committee members and student. The Project Report format should be chosen to maximize the use of the written materials for further professional activities, including submission of the work for publication.

The following are the minimum required sections that must be included in every Project Report. The format can be modified in consultation with the thesis advisor and committee to align with formats of scientific journals as necessary. The Research Report must be written in prose (no outlines will be accepted).

Title Page
Please state your name, the title of your thesis, your thesis advisor, and the date.

Abstract
The abstract should be less than 500 words.

Summary of Research
(variable length depending on you research project. A minimum of 10 single-spaced pages and may include figures)
**Significance and Background:** This section should include key findings that lead up to your work. Please avoid an exhaustive review of the literature and instead focus on important papers in your field that put your work into context. The section should funnel information from broad to narrow. It should also define information that sets up an important problem you will address and your hypothesis.

**Hypothesis or Goals Statement:**
A hypothesis is a statement about what will learned about your topic of study based on your work. Please avoid posing questions or stating your expected results. Instead craft this based on what specific knowledge you will learn about your topic of study.

A goal is a specific outcome from the proposed work. Please concisely state what will be produced and how this represents a unique contribution to the field.

**Methods**
A description of the methodology must be included in a fashion similar to that used in research articles in the student’s field of study. It should be understandable to committee members and useful to students that are in a similar field of study that would like to replicate the experiments done.

**Results**
This main section of the Research Report should convey the data collection and analysis of the experimental work conducted by the student. It should be presented in a fashion similar to that used in research articles in the student’s field of study.

**Figures and Tables**
All figures and tables must be accompanied by a clear and concise legend that describes each aspect of figure or table. The figures, tables, and legends may be impended within the text of the results or can be shown separately after the main text. Each figure and table must be referred to in the main text and should be numbered in order.

**Conclusions**
Please describe how the results address the original hypothesis or stated goal. It is important to convey the *significance* of the work in context to the field of study. How did the findings impact the field of study? What new was learned that was not known before?

**References (not included in page count)**
The format of the references can be decided by the student in consultation with the committee. Typically, the references should follow the format of those in journals typically used in the student’s field of study. All references listed should be cited within the text, figures, tables, and legends.

The Project Report must be written using standard 8.5” x 11” page size, 12-point, Times New Roman font OR 11-point Arial font, 1” margins on all sides, and must be single spaced or greater. References, figure legends, and footnotes may be a smaller font, no less than 10-point Times New Roman or Arial font.

**Evaluation**
The Project Report must be approved by the Thesis advisor in consultation with the Thesis Committee.

**The Thesis Committee requires a minimum of 3 weeks** to read and evaluate the Project Report before providing feedback to the student.

The Thesis Committee members may provide written or verbal feedback about changes that must be implemented before approval. The student can work in consultation with the thesis committee, the thesis advisor, and the student to determine what changes should be made. The thesis advisor will approve the Project Report after consultation with the committee.
1. Official Degree Title as listed in the University Bulletin:
   - Master of Science
   - Major: Cell Molecular Biology

2. Name: John Smith
   - Student ID: 123456789
   - Address: 500 Cherry Street
   - City/State/Zip: San Francisco, CA 94132
   - Phone: (415) 555-5577
   - Email: jsmith@mail.sfsu.edu

3. [ ] Check here if this is a REVISED proposal (withdrawing previous proposal)

4. [ ] I plan to register for the 895 course in (enter term and year): Spring 2016 or [ ] I previously registered for the 895 course

5. Title (Limit 12 words): What happened to the Dodo Bird?

6. Brief statement of project and research (this may be in space allotted):
   The dodo (Raphus cucullatus) is an extinct flightless bird that was endemic to the island of Mauritius, east of Madagascar in the Indian Ocean. The species died out before 1700, less than a hundred years after encountering men. The dodo (Raphus cucullatus) is an extinct flightless bird that was endemic to the island of Mauritius, east of Madagascar in the Indian Ocean. The species died out before 1700, less than a hundred years after encountering men. The dodo (Raphus cucullatus) is an extinct flightless bird that was endemic to the island of Mauritius, east of Madagascar in the Indian Ocean. The species died out before 1700, less than a hundred years after encountering men.

7. Projected timeline for completion of culminating experience:
   Complete in detail with your advisor. Indicate dates when sections/specific work will be due to faculty for review.

<table>
<thead>
<tr>
<th>PLAN FOR COMPLETION OF CULMINATING EXPERIENCE</th>
<th>DATES TO BE SUBMITTED TO FACULTY FOR REVIEW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advancement to Candidacy Form</td>
<td>10/01/2016</td>
</tr>
<tr>
<td>Final Report</td>
<td>04/15/2017</td>
</tr>
<tr>
<td>Oral Defense</td>
<td>05/10/2017</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>I PLAN TO COMPLETE MY DEGREE IN:</td>
<td></td>
</tr>
<tr>
<td>[ ] FALL       [ ] SPRING       [ ] SUMMER       [ ] YEAR</td>
<td></td>
</tr>
<tr>
<td>I have reviewed the above with my committee members and agree to the terms of the projected timeline</td>
<td></td>
</tr>
</tbody>
</table>
   - STUDENT SIGNATURE: ____________________________
   - DATE: ____________________________
8. IF YOUR PROJECT INVOLVES RESEARCH WITH HUMANS, ANIMALS OR BIOLOGICAL SPECIMENS (cells, tissues, etc.),
YOU MUST PROVIDE ADDITIONAL DOCUMENTATION:

Depending on the nature of your project, SF State may require you to submit information to the Human and Animal Protections (HAP) unit for project registration or approval. Contact HAP at protocol@sfusu.edu or 415-338-1093.

1. If you have received confirmation of approval or determination through HAP: Attach the official approval or determination notice and select one of the following:
   - My protocol has been approved by the IRB or IACUC and I have attached the approval notice.
   - My project has been determined to be Exempt or Excepted by HAP and I have attached the notice of determination.

2. If your project has been submitted to HAP and is under review, provide the date submitted to HAP: __________, and indicate the submission type: __ Application for Determination of Exemption __ Protocol __ Email inquiry

3. If your research is covered under someone else's protocol, you need to register with HAP, and indicate one of the following:
   - My project is covered under an SF State faculty member's protocol. Protocol #: __________ (if already approved).
   - My project is covered under an approved protocol at another institution.

4. If you are UNSURE if your project is considered human subjects research, submit an Application for Determination of Exemption to HAP: https://research.sfusu.edu/nap/applications/determination-exemption

5. If you are UNSURE if your project is considered animal research, contact HAP at protocol@sfusu.edu or 415-338-1093.

6. If you are conducting research using biological specimens (e.g., tissues, cells, etc.), you must register the work with HAP and attach their official notice of exception or approval.

IMPORTANT: DO NOT BEGIN YOUR RESEARCH UNTIL YOU RECEIVE NOTICE OF APPROVAL, EXEMPTION OR EXCEPTION

REQUIRED NAMES AND ORIGINAL SIGNATURE

9. Supervising committee: must include a minimum of two TENURED or TENURE TRACK faculty members from the student's major department

FOR COMMITTEE CHAIR:
I will be available to work with students (1) during winter break: YES NO (2) during the summer months: YES NO

Committee Chair:

__________________________________________________________

Other committee member(s):

2nd

__________________________________________________________

3rd

__________________________________________________________

10. Department chair/graduate coordinator: I have reviewed the above proposal including the composition of the supervising committee and find it acceptable for meeting the culminating experience requirement for the master's degree in the major indicated.

__________________________________________________________

FOR OFFICE USE ONLY

CRSP-HAP determination: Approved protocol #: __________ Exempt __________ Date __________ Excepted __________ Date __________

Accepted by Division of Graduate Studies __________ Date __________

Rev 03/17
The Thesis for Biology 898 is used as the Culminating Experience for the Biology Master’s Program. The goal of the Thesis is to present a written communication that conveys the relevance of the research question, the goals of the research, the data and findings, and the conclusions of the work. The Thesis is considered a published work and must meet the standards of the University before it is approved.

Information about the formatting and submission of the Thesis can be found at this site:

http://grad.sfsu.edu/content/current-students/thesis-dissertation-page

Goals: In the Thesis, the student will demonstrate their capabilities in the following learning outcomes:

1) Analyze research articles to identify those in their field of study most relevant to their research project.

2) Evaluate data and interpret results to draw appropriate conclusions.

3) Present data in effective and understandable written or visual formats appropriate to the student’s field of study.

4) Draw valid conclusions from data collected during research experiences and field projects.

5) Convey these abilities in writing in a format appropriate to the student’s field of study.

It is important to note that your thesis must be approved by the Thesis committee and Department. It is important to note that the approved Thesis is made accessible to the public through the SFSU University Library.

Format:
The format of the Thesis should follow all of the guidelines required by the University: http://grad.sfsu.edu/sites/default/files/assets/forms/thesis-dissertation-guidelines.pdf

Preliminary Pages
The University requires standard pages in every thesis. They can be found here: http://grad.sfsu.edu/sites/default/files/assets/forms/thesis-dissertation-guidelines.pdf

Thesis Text Pages:
After including the mandatory Preliminary Pages, the following are the suggested sections that are typically included in the Thesis. The format can be modified in consultation with the thesis advisor and committee to adhere to standards of the field of study but MUST adhere to the University guidelines for the Thesis. The Thesis must be written in prose (no outlines will be accepted).
Summary of Research
(variable length depending on your research project. A minimum of 10 single-spaced pages and may include figures)

Significance and Background: This section should include key findings that lead up to your work. Please avoid an exhaustive review of the literature and instead focus on important papers in your field that put your work into context. The section should funnel information from broad to narrow. It should also define information that sets up an important problem you will address and your hypothesis.

Hypothesis or Goals Statement:
A hypothesis is a statement about what will be learned about your topic of study based on your work. Please avoid posing questions or stating your expected results. Instead craft this based on what specific knowledge you will learn about your topic of study.

A goal is a specific outcome from the proposed work. Please concisely state what will be produced and how this represents a unique contribution to the field.

Methods
A description of the methodology must be included in a fashion similar to that used in research articles in the student’s field of study. It should be understandable to committee members and useful to students that are in a similar field of study that would like to replicate the experiments done.

Results
This main section of the Research Report should convey the data collection and analysis of the experimental work conducted by the student. It should be presented in a fashion similar to that used in research articles in the student’s field of study.

Figures and Tables
All figures and tables must be accompanied by a clear and concise legend that describes each aspect of figure or table. The figures, tables, and legends may be impended within the text of the results or can be shown separately after the main text. Each figure and table must be referred to in the main text and should be numbered in order.

Conclusions
Please describe how the results address the original hypothesis or stated goal. It is important to convey the significance of the work in context to the field of study. How did the findings impact the field of study? What new was learned that was not known before?

References
The format of the references should follow University guidelines. All references listed should be cited within the text, figures, tables, and legends.

Evaluation
The Thesis must be approved by the Thesis advisor in consultation with the Thesis Committee. The Thesis must also meet Graduate Division guidelines for formatting.

The Thesis Committee requires a minimum of 3 weeks to read and evaluate the Thesis before providing feedback to the student.
The Thesis Committee members may provide written or verbal feedback about changes that must be implemented before approval. The student can work in consultation with the thesis committee, the thesis advisor, and the student to determine what changes should be made. The thesis advisor will approve the Thesis after consultation with the committee.
# Proposal for Culminating Experience

**898: Thesis**

Thesis receipt required upon completion

Complete, print and file this form with the Division of Graduate Studies in accordance with guidelines published in the University Bulletin. No handwritten forms will be accepted.

## 1. Official Degree Title as listed in the University Bulletin:

- Master of Science
- Major: Cell and Molecular Biology

## 2. Name: Jon Smith

- Address: 55 Cherry Street
- City/State/Zip: San Francisco, CA 94123
- Student ID: 123456789
- Phone: (415) 555-7348
- Email: jsmith@mail.sfsu.edu

## 3. ☐ Check here if this is a revised proposal (withdrawing previous proposal)

## 4. ☐ I plan to register for the 898 course in (enter term and year): Spring 2016 or ☐ I previously registered for the 898

## 6. Title (Limit 12 words): (Report any title change to the Division of Graduate Studies prior to filing completed work.)

What happened to the Dodo Bird?

Brief statement of project and research methods (must fit in space allotted):

The dodo (Raphus cucullatus) is an extinct flightless bird that was endemic to the island of Mauritius, east of Madagascar in the Indian Ocean. The species died out before 1700, less than a hundred years after encountering men. The dodo (Raphus cucullatus) is an extinct flightless bird that was endemic to the island of Mauritius, east of Madagascar in the Indian Ocean. The species died out before 1700, less than a hundred years after encountering men.

## 7. Projected timeline for completion of culminating experience

Complete in detail with your advisor. Indicate dates when sections/specific work will be due to faculty for review.

<table>
<thead>
<tr>
<th>PLAN FOR COMPLETION OF CULMINATING EXPERIENCE</th>
<th>DATES TO BE SUBMITTED TO FACULTY FOR REVIEW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advancement to Candidacy Form</td>
<td>10/01/2015</td>
</tr>
<tr>
<td>Final Report</td>
<td>04/15/2016</td>
</tr>
<tr>
<td>Oral Defense</td>
<td>05/10/2016</td>
</tr>
</tbody>
</table>

I PLAN TO COMPLETE MY DEGREE IN: ☐ FALL ☐ SPRING ☐ SUMMER YEAR

I have reviewed the above with my committee members and agree to the terms of the projected timeline.

STUDENT SIGNATURE DATE

COMPLETE PAGE 2 AND OBTAIN ALL REQUIRED SIGNATURES
8. IF YOUR PROJECT INVOLVES RESEARCH WITH HUMANS, ANIMALS OR BIOLOGICAL SPECIMENS (cells, tissues, etc.),
YOU MUST PROVIDE ADDITIONAL DOCUMENTATION:

Depending on the nature of your project, SF State may require you to submit intimation to the Human and Animal Protections (HAP) unit for project registration or approval. Contact HAP at protocol@sfasu.edu or 415-338-1003.

1. If you have received confirmation of approval or determination through HAP, attach the official approval or determination notice and select one of the following:
   - My protocol has been approved by the IRB or IACUC and I have attached the approval notice.
   - My project has been determined to be Exempt or Excepted by HAP and I have attached the notice of determination.

2. If your project has been submitted to HAP and is under review, provide the date submitted to HAP, and indicate the submission type:
   - Application for Determination of Exemption
   - Protocol
   - Email inquiry

3. If your research is covered under someone else’s protocol, you need to register with HAP, and indicate one of the following:
   - My project is covered under a SF State faculty member’s protocol. Protocol #:________________________ (if already approved)
   - My project is covered under an approved protocol at another institution.

4. If you are UNSURE if your project is considered “animal research,” submit an Application for Determination of Exemption to HAP at https://research.sfasu.edu/content/application-determination.

IMPORTANT: DO NOT BEGIN YOUR RESEARCH UNTIL YOU RECEIVE NOTICE OF APPROVAL, EXEMPTION OR EXCEPTED

REQUIRED NAMES AND ORIGINAL SIGNATURES

9. Supervising committee: must include a minimum of two TENURED or TENURE TRACK faculty members from the student’s major department

FOR COMMITTEE CHAIR:
I will be available to work with students ( ) during winter break  YES  NO (2) during the summer months  YES  NO

Committee Chair: ____________________________
SIGNATURE

Other committee member(s):
2nd: ____________________________
SIGNATURE

3rd: ____________________________
SIGNATURE

10. Department chair/graduate coordinator: I have reviewed the above proposal including the composition of the supervising committee and find it acceptable for meeting the culminating experience requirement for the master’s degree in the major.

________________________________________
SIGNATURE

FOR OFFICE USE ONLY

ORSP-HAP determination: Approved protocol #________________________
Exempt ________ Date __________
Excepted ________ Date __________
Accepted by Division of Graduate Studies ____________________ Date ________
Human and Animal Protections
http://research.sfsu.edu/protocol

Human and Animal Protections at San Francisco State University supports the work of the Institutional Review Board (IRB) and the Institutional Animal Care and Use Committee (IACUC). The IRB and the IACUC are charged with protecting the safety and welfare of humans and animals used in research at or in conjunction with this university. The committees do not expect research to be free from risk, but do expect the investigator to be aware of the risks, to minimize risk when possible, and to take appropriate precautions whenever necessary.

Phone: (415) 338-1093
E-mail: protocol@sfsu.edu

Announcing Three (3) Year Approval for Qualifying Minimal Risk Research
Utilizing flexibility available under our Federal-wide Assurance (FWA) regarding certain study approval periods, the Institutional Review Board and ORSP - Human and Animal Protections are pleased to announce the following change in policy. Effective May 1, 2014, the IRB will begin issuing three (3) year approvals for faculty research that qualifies for this extended approval period for new protocols. To qualify, the research must:

1. involve no more than minimal risk to participants (as defined by 45 CFR 46.102);
2. not be supported by federal funds; and
3. not be subject to federal oversight.

To extend the expiration date on existing approved protocols, please contact our office directly for more information.

Application for Determination of Exemption from IRB Review
ORSP – Human and Animal Protections has recently released an online application for determining exemption from IRB review. This submission tool will enable researchers and students to submit their project descriptions online to determine if they qualify for exemption. Please contact us if you have any issues with our new online form or questions!

ORSP - HAP has compiled turnaround times
- Average Protocol Review Time
- IRB Protocol Numbers
- Average Faculty Protocol Approval Time
An animal protocol must be submitted to HAP to begin the review process for any research and teaching projects using live, vertebrate, non-human animals, as required by federal law and SFSU policy.

In addition, all researchers using animal subjects are required to complete the online Animal Welfare course, "Working with the SFSU IACUC," which takes approximately 2 hours. A course completion report will be issued after you complete the course. The certificate must be provided to HAP. The certificate is valid for 3 years. Protocols cannot be approved without this certification.

To register for the course, go to http://www.citiprogram.org/
  - Proceed directly to "New Users Register Here."
  - Choose "San Francisco State University" from the drop-down menu.
  - Click "Submit."
  - Choose a user name and password. Write them down. You will need them again if you choose to take the course in more than one session, or if you ever need another copy of your course completion report.
  - Fill out the required fields in the next two screens. When directed to the CITI course enrollment procedure page, please scroll down to the bottom of the page and click on "Question 1."
  - The required course is "Working with the SFSU IACUC." When you finish the required course, optional courses will be available.
  - Scroll down to the bottom of the page and click on "Submit." You will be redirected to the Learner's Menu.
  - Scroll halfway down the page and click on "Not Started-Enter." This will take you to the Introduction and modules required to complete the course.

Animal Subjects Forms Library
http://research.sfsu.edu/protocol/forms_anim

Animal Subjects Policy Library
http://research.sfsu.edu/protocol/policies_anim
Day of your Defense
Documents Needed

**Biology 895 (Research Project – 4 units)**

- Report of Completion
- Abstract with signatures
- *(Grade Change *if required*)

**Biology 898 (Master's Thesis – 4 units)**

- Report of Completion
- A copy of your Receipt for Masters’ Thesis or Written Creative Work Signed by Graduate Division and Digital scholarship Center
- Accompanied by the Bursar’s Binding Fee Receipt
- *(Grade Change *if required*)

*Grade change need, only if you did not complete Biology 895 or 898 in the semester you registered for it.*
# Report of Completion - Example

**Found: Biology Office**

---

## REPORT OF COMPLETION
OF SPECIFIED GRADUATE PROGRAM REQUIREMENTS

<table>
<thead>
<tr>
<th>Degree Objective:</th>
<th>Master of Science</th>
<th>Major: Biology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration (if applicable):</td>
<td>Cell and Molecular</td>
<td>Emphasis (if applicable):</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name:</th>
<th>John Smith</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
<td>555 Cherry Street, San Francisco, CA 94132</td>
</tr>
<tr>
<td>Student ID:</td>
<td>123456789</td>
</tr>
<tr>
<td>Phone(s):</td>
<td>415-338-1548</td>
</tr>
<tr>
<td>E-mail:</td>
<td><a href="mailto:jsmith@mail.sfsu.edu">jsmith@mail.sfsu.edu</a></td>
</tr>
</tbody>
</table>

---

Check as applicable:

- **GRADUATE PROGRAM REQUIREMENTS** (requires only the signature of major advisor or graduate coordinator)
  - [ ] Met conditions required to obtain Classified Status as specified at time of admission to program
  - [ ] Examination for validation of unsatisfied course work (7-year Extension)
  - [ ] Foreign Language Examination (specify):
  - [ ] Other (specify):

- **CULMINATING EXPERIENCE REQUIREMENTS**
  - (REMEMBER: Apply for Graduation for Award of Graduate Degree and verify all grades listed on approved ATC before submission of form)
  - [ ] Supervised Field Internship (592) – abstract required
  - [ ] Creative Work Project (894) – abstract required
  - [ ] Field or Research Project (895) – abstract required
  - [ ] Seminar on Field Studies (860)
  - [ ] Comprehensive Written Examination (596 EXM)
  - [ ] Comprehensive Oral Examination
  - [ ] Oral Defense of Thesis (898) or Project (895)

---

**REQUIRED SIGNATURES:** In the case of culminating experience requirements, the faculty signing should be the same as those listed on the Proposal for Culminating Experience Requirement form filed in the Division of Graduate Studies.

This is to certify that the above requirements were: [ ] Completed satisfactorily on 08/01/2017

<table>
<thead>
<tr>
<th>Date</th>
<th>Signature of Committee Chair/Advisor (as appropriate)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PRINTED Name and academic rank</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Signature of Committee Member</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PRINTED Name and academic rank</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Signature of Committee Member</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PRINTED Name and academic rank</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Signature of Department Chair or Graduate Coordinator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PRINTED Name</td>
</tr>
</tbody>
</table>

Accepted by Division of Graduate Studies

Date
Graduate Division Receipt for Masters’ Thesis or Written Creative Work (example)
(Accompanied by the Bursar's Binding Fee Receipt)
Required for Biology 898 Thesis Only

898 Thesis Guidelines:
http://grad.sfsu.edu/content/current-students/thesis
### Petition for Grade Change – Example

(Fill this form out if you received an “RP” (Report in Progress) grade for your 895 or 898.

**San Francisco State University**

**Petition for Grade Change - Report of Make-Up of Incomplete**

A grade of incomplete will not be changed after a degree or credential has been awarded. See the bulletin for details. An incomplete must be completed within one calendar year immediately following the end of the term in which it was assigned. If there are extenuating circumstances and the one year limit has not passed, the student may request an extension of the one year limit through a Petition for Waiver of College Regulations. Petitions must be delivered to the Registrar’s Office at One Stop Student Services Center, 558 101 by staff members only. Petitions will not be accepted by students.

**Report of Make-Up of Incomplete**

- Requires action by Instructor and Department Chair.

**Petition for Grade Change**

- Requires action by Instructor and Department Chair. Most grade changes can be done on Web Grades. Note: if request includes grading option change please use Waiver of College Regulations petition instead of this form.

<table>
<thead>
<tr>
<th>Dept. &amp; Course #:</th>
<th>Biology 895 or 898</th>
<th>Schedule #:</th>
<th>123456</th>
<th>Term/Year course taken:</th>
<th>Fall 2016</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Units:</th>
<th>4</th>
<th>Course Title:</th>
<th>BIOL 895 Research Project (Units: 4) — or — BIOL 898 Master’s Thesis (Units: 4)</th>
</tr>
</thead>
</table>

**Address:**

1500 Maple Street, City: San Francisco, State: CA, Zip Code: 94123

**Phone Number:** (415) 555-7878

**Email:** jsmith@mail.sfsu.edu

**Student’s reason for requesting a grade change:**

Completed master’s course work.

**Action by Instructor:**

<table>
<thead>
<tr>
<th>Previous Grade:</th>
<th>RP</th>
<th>Date work submitted to instructor:</th>
<th>Jul 5, 2017</th>
</tr>
</thead>
</table>

- New Grade:
  - [ ] Plus
  - [X] RP
  - [ ] Minus
  - [ ] Neither

**Reason Approved or Denied:**

Completed Master’s course work

**Instructor Name:** Professor James Jones

**Instructor Signature:**

**Action by Department Chair:**

- [X] Approved

**Reason Approved or Denied:**

Completed Master’s course work

**Dept. Chair Name:** Michael Goldman

**Dept. Chair Signature:**

**Date:**

**Registrar’s Office Use Only**

<table>
<thead>
<tr>
<th>New Grade</th>
<th>Previous Grade</th>
<th>Date Recorded MMDDYY</th>
</tr>
</thead>
</table>

**IF GRADE CHANGE REQUEST ALSO INCLUDES A GRADING OPTION CHANGE PLEASE REFER TO THE WAIVER OF COLLEGE REGULATIONS PETITION**

[Reset Form] [Print Form]
Culminating Experience Continuous Enrollment

Maintaining Graduate Student Status
All graduate students are required to maintain continuous enrollment through completion of degree requirements or lose graduate student standing at SF State. A student who does not enroll for two consecutive semesters loses graduate student standing and must reapply for admission to the University and to the major department.

Culminating Experience Course Enrollment
Enrolling in the Culminating Experience course is the final step toward completing your degree. Once you enroll in your Culminating Experience course, you are expected to complete your degree within two semesters or maintain continuous enrollment until you earn your degree. You are not required to enroll in coursework the semester immediately following enrollment in your Culminating Experience (CE) course if your Culminating Experience has not been completed.
You are allowed a “grace” semester in which to complete your Culminating Experience and earn your degree. For example, if you enroll in your Culminating Experience course in Spring 2015, you are permitted to continue your work through the Fall 2015 semester without enrolling. However, if you do not complete your Culminating Experience by the end of the Fall 2015 grace semester, you must enroll Spring 2016, and each semester thereafter until you earn your degree.

Continuous Enrollment through CEL 499 Requirement
If you do not complete your Culminating Experience after the “grace” semester following enrollment in your Culminating Experience course, you are required to maintain continuous enrollment through the College of Extended Learning (CEL). You must enroll in a Culminating Experience Continuous Enrollment course under your college name: in your case SCI 499.

Students must enroll in CEL 499 before the university's add/drop deadline (the add/drop deadline can be found on the Registrar's Office website: http://www.sfsu.edu/~admisrec/reg/regsched.html).

Enrollment in the CEL CE course provides students access to SFSU libraries, discipline-associated laboratories and facilities, and Culminating Experience advisors.
If you do not maintain continuous enrollment, and wish to return to complete the degree, you will need to reapply to the university (readmission is not guaranteed) and enroll in the CEL course for the semester you are readmitted and every semester after until earning your degree. The 7-year time limit to degree, from earliest course in your degree program to date of graduation, applies. For more detailed information please refer to Academic Senate Policy S08-246 or to the SF State Bulletin.

To register for your CEL 499 Course:

1. Use this link, http://www.celsfsu.edu/courses/classes-spring2015.cfm, to find the available Continuous Enrollment courses for this term. Scroll down or click the “C” alpha to find ‘Continuous Enrollment.’ Here you can write down the class number you will need for enrollment in the appropriate CEL 499 course based on your college.

2. Check to see if you have the necessary CEL 499 Course Requirement hold in your “Student Center.” This hold will appear under “Holds” on the right side of your “Student Center”. If you **do not** have this hold, stop and contact Graduate Studies at 415-338-2231. If the hold appears on your record, proceed to Step 3.

3. Enroll using the class number you noted by contacting Enrollment Services at 415-405-7700 (Enrollment Services will assist you with payment options).
Applying for Graduation

Complete the Biology Exit Survey
Available ONLY online

https://sfsu.co1.qualtrics.com/SE/?SID=SV_dasOZ5DZGQ2ATk1

Applying for Graduation is done through the SFSU Graduate Division Website

Instructions for Submitting Application for Award of Degree

http://grad.sfsu.edu/content/current-students/award-degree
Biology Department FAQs

Whom can I call for help?

If you have an emergency on campus, pick up a campus phone and dial 911. (If you use your cell phone, you will be routed from the city dispatcher back to SFSU Police. It takes a little longer.) For non-emergencies to Campus Police call 415-338-7200. If you are dialing from a campus phone, dial 8-7200

For issues with labs (chemical spills, equipment malfunction, etc.) call Justin Chan in the Biology Stockroom located at Hensill Hall 539. The phone number is 415 405 0426.

Where do I get keys to my lab and the building?

Download the form “Key Request Order Form” available at the Biology Stockroom website: http://online.sfsu.edu/biostkrm/biostockroom/Downloads.html. Fill it in, have your advisor sign it, and take it to the Biology Stockroom at Hensill Hall 539. After it has been approved, you will receive an email from University Facilities letting you know when and where to pick up the keys.

What is a 24-hour pass and why do I need it?

Campus Police patrol Hensill Hall regularly to ensure our safety - Hensill Hall is located right on 19th avenue, a busy street in San Francisco. This makes it a target for thieves. To help Campus Police determine if someone is in the building legitimately at night and on weekends, we issue 24 hour passes that must be renewed yearly. Keep this pass in your lab or in your wallet and show it to Campus Police when asked. To obtain the pass, see Justin Chan at the Biology Stockroom. After it has been approved, it will be returned to your advisor, who needs to give it back to you.

Where do I find information about upcoming events?

1) You should receive by email the Biology Chair’s Weekly Digest. Look for great achievements from our students, faculty, and staff. Learn about funding opportunities. Be alerted about upcoming deadlines and events.

2) The Biology Department website: http://biology.sfsu.edu You’ll find links to our weekly seminar series and news items.

3) The Biology Department newsletter – available once per semester in the Biology Department office. See highlights of our department research programs and learn about what our alumni are accomplishing.

Where can I find out about Lab Safety Procedures?

The College of Science and Engineering has a website that constantly updates safety information. http://www.sfsu.edu/~safety/
In particular, there is specific information for students: http://www.sfsu.edu/~safety/staff/studentEmpl.html

Be sure to check in with your PI for a Safety Orientation that is required for all new lab personnel. This safety training will give you specific information about hazards in your laboratory.

The Biology Stockroom also has downloads for handbooks and safety information: http://online.sfsu.edu/biostkrm/biostockroom/Downloads.html

What do I do if I have problems with another student/staff/faculty?

On occasions when you have encountered problems with others you cannot directly resolve and/or that make you feel uncomfortable, contact your research advisor to discuss your concerns. If you do not feel comfortable discussing your concerns or experiences with your research advisor, you can schedule an appointment with the Graduate Coordinator, Diana Chu (chud@sfsu.edu) or the Department Chair, Laura Burrus (lburrus@sfsu.edu) to discuss your concerns.

The University also has resources to address student concerns and complaints. Please read the information provided to help guide you to resolve problems. http://www.sfsu.edu/~vpsa/complaints/

Other resources:
SF State fosters a campus free of sexual violence including sexual harassment, domestic violence, dating violence, stalking, and/or any form of sex or gender discrimination. If you disclose a personal experience as an SF State student, the course instructor is required to notify the Dean of Students. To disclose any such violence confidentially, contact: The SAFE Place - (415) 338-2208; http://www.sfsu.edu/~safe_plc/ or Counseling and Psychological Services Center - (415) 338-2208; http://psyservs.sfsu.edu/. For more information on your rights and available resources: http://titleix.sfsu.edu"
Individual Development Plan Information

Individual Development Plans (IDPs) help to identify an individual’s long-term career objectives and develop an individualized plan or process to achieve those goals. Furthermore, IDPs serve as an excellent communication tool between individuals and their mentors.

Goals and Benefits

Helps students:

- Identify long-term career options they wish to pursue and the necessary tools to meet these
- Set short-term goals for improving current performance
- Communicate with mentors on achieving both short and long term goals

Helps mentors:

- Set realistic expectations that take into account the student's current skill set and future goals
- Assess progress and give constructive feedback based on student's performance and goals
- Focus on providing advice on those resources that fit the individual's career plan

Outline of IDP Process

The development, implementation, and revision of the IDP require a series of steps to be conducted by the graduate student and their mentor.

These steps are an interactive effort, and so both the graduate student and the mentor should participate fully in the process.

<table>
<thead>
<tr>
<th>Basic Steps</th>
<th>For Graduate Students</th>
<th>For Mentors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Conduct self-assessment.</td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>Write an IDP. Share IDP with mentor and revise.</td>
<td>Review IDP and help revise.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Implement the plan. Revise IDP as needed.</td>
<td>Establish regular progress review.</td>
</tr>
<tr>
<td>Step 4</td>
<td>Survey opportunities with mentor.</td>
<td>Discuss opportunities with student.</td>
</tr>
</tbody>
</table>
Independent Development Plans – Electronic Resources

Independent Development Plan and Self-Assessment Information


- SACNAS IDP worksheets: [https://docs.google.com/file/d/0B6jsUuSJqdDackxTMVp5eks2X2M/edit?pli=1](https://docs.google.com/file/d/0B6jsUuSJqdDackxTMVp5eks2X2M/edit?pli=1)

Resources


Academic Career Opportunities

- American Association for the Advancement of Science [http://sciencecareers.sciencemag.org/](http://sciencecareers.sciencemag.org/)


• On-line Listserv: Tomorrow's Professor: https://tomprof.stanford.edu/
Independent Development Plans – Electronic Resources

Independent Development Plan and Self-Assessment Information

- Science Careers: an on-line IDP building guide: http://myidp.sciencecareers.org/


- SACNAS IDP worksheets: https://docs.google.com/file/d/0B6jsUuSJqdDackxTMVp5eks2X2M/edit?pli=1

Resources


Academic Career Opportunities

- American Association for the Advancement of Science http://sciencecareers.scientificamerican.org/


- On-line Listserv: Tomorrow's Professor: [https://tomprof.stanford.edu/](https://tomprof.stanford.edu/)
Manage Your Degree
Implementing Individual Development Plans

For Graduate Students

Step 1. Conduct a Self-Assessment.
Assess your skills, strengths, and areas that need development.
One on-line resource is:  http://myidp.sciencecareers.org/

Other examples and information:
http://sacnas.org/about/stories/sacnas-news/summer-2013/building-your-IDP
https://docs.google.com/file/d/0B6jsUuSjqdDackxTMVp5eks2X2M/edit?pli=1
http://www.grad.umn.edu/prod/groups/grad/@pub/@grad/documents/asset/idpgradpdf.pdf

Take a realistic look at your current abilities. This is a critical part of career planning. Ask your peers, mentors, family and friends what they see as your strengths and your development needs. Consider your personality traits and what you are passionate about.

Outline your long-term career objectives. Ask yourself:
-What type of work would I like to be doing?
-Where would I like to be in an institution or organization?
-What is important to me in a career?

Step 2. Write an IDP.
The IDP maps out the general path you want to take and helps match skills and strengths to your career choices. It is a changing document, since needs and goals will almost certainly evolve over time as a graduate student. The aim is to build upon current strengths and skills by identifying areas for development and providing a way to address these. The specific objectives of a typical IDP are to:

Identify specific skills and strengths that you need to develop (based on discussions with your mentor).
Define the approaches to obtain the specific skills and strengths (e.g., courses, technical skills, teaching, and supervision).
Map out a timeline and plan to attain your goals.

Step 3. Consult with your Mentor about your plan.
Identify developmental needs by comparing current skills and strengths with those needed for your career choice.
Prioritize your developmental areas and discuss how these should be addressed.
Solicit advice and develop strategies about tackling the approaches you have defined to obtain specific skills and strengths.
Discuss the time frame for short-term goals and if they are realistic.
Identify career opportunities and select from those that interest you.
Revise the IDP as appropriate.

Step 4. Implement Your Plan.
The plan is just the beginning of the career development process and serves as the road map. Now it is time to take action!

Put your plan into action.
Revise and modify the plan as necessary. It will need to be modified as circumstances and goals change. The challenge of implementation is to remain flexible and open to change.
Review the plan with your mentor regularly. Revise the plan on the basis of these discussions.
**For Mentors**

Step 1. Become familiar with available opportunities and resources.
By virtue of your experience, you should already have knowledge of some career opportunities, but you may want to familiarize yourself with other career opportunities and trends in job opportunities.

You may also want to consider resources at SFSU that will help your student gain skills and technical abilities necessary to attain their goals.

Step 2. Discuss opportunities with graduate student.
This needs to be a private, scheduled meeting distinct from regular research-specific meetings. There should be adequate time set aside for an open and honest discussion.

Step 3. Review IDP and help revise.
Provide **honest feedback** to help the graduate student set realistic goals. Discuss BOTH current strengths and weaknesses as you perceive them.

Provide information on **resources** or help that is available to help them gain the skills and expertise to meet their goals.

Agree on a development plan that will allow the graduate student to be productive in the laboratory and adequately prepared for their chosen career. Give feedback about the timeline and feasibility of reaching the goals in the time frame given.

If the student is taking research for credit, discuss expectations the student should meet to achieve specific grades.

Step 4. Establish regular review of progress.
The mentor should meet at regular intervals with the graduate student to assess progress, expectations, and changing goals.

Each semester, the mentor should give feedback on the progress the student has made in attaining their short-term goals and how it relates to achieving their medium and long-term goals. This can be considered a performance review that is designed to analyze what has been accomplished and what needs to be done.

If the student is taking research for credit, discuss how the students has met or not met expectations set at the beginning of the semester.

A written review can be very helpful in objectively documenting accomplishments. An effective means of communication can be to have the student write an email after your meeting to summarize the goals and expectations so that both you and the students are clear on the implementation of the plan.
A successful mentor/mentee relationship should be fulfilling and beneficial for all involved. Utilize these ten tips for a more effective and productive relationship:

1. **Keep communications open.**  
   **Mentee:** Be up front. Let your mentor know what your goals are and what you hope to take away from the program.  
   **Mentor:** Help your mentee set realistic expectations. Also, if you know you will be unavailable because of business or personal travel, let them know.

2. **Offer support.**  
   **Mentee:** Remember that your mentor is there for you, but is only a guide.  
   **Mentor:** Encourage communication and participation. Help create a solid plan of action.

3. **Define expectations.**  
   **Mentee:** Review your goals. Make sure your mentor knows what to expect from you.  
   **Mentor:** Help set up a system to measure achievement.

4. **Maintain contact.**  
   **Mentee:** Be polite and courteous. Keep up with your e-mails and ask questions. **Mentor:** Respond to your e-mails. Answer questions and provide advice, resources and guidance when appropriate.

5. **Be honest.**  
   **Mentee:** Let your mentor know if you don't understand something or have a differing opinion.  
   **Mentor:** Be truthful in your evaluations, but also be tactful.

6. **Actively participate.**  
   **Mentee:** Listen. Be engaged. Ask questions.  
   **Mentor:** Engage in your own learning while you are mentoring, collaborate on projects, ask questions and experiment.

7. **Be innovative and creative.**  
   **Mentee:** Offer ideas on what activities and exercises you can do together.  
   **Mentor:** Share your ideas, give advice and be a resource for new ideas.

8. **Get to know each other.**  
   **Mentee and Mentor:** Remember that people come from diverse backgrounds and experiences. Get to know each other on an individual basis.

9. **Be reliable and consistent.**  
   **Mentee and Mentor:** The more consistent you are, the more you will be trusted.

10. **Stay positive!**  
    **Mentee:** Remember that your mentor is offering feedback and not criticizing.  
    **Mentor:** Recognize the work the mentee has done and the progress made.
The IDP will help you define and plan your academic and professional goals. You will also develop an action plan to help guide your progress through the master's program. Review this document with your Research Advisor to get help and feedback at the beginning and end of each semester.

Master's Student Name: ____________________________________________

Major Advisor's Name: ____________________________________________

Please Sign and date after the student and advisor reviewed the IDP:

Student_________________________Advisor_________________________Date_______

1. Please explain your career aspirations.

   A. Long-term goals:

   B. Short-term goals:

2. What is your target date for graduation? _____________________________
3. Given your target date for graduation, please list the courses you need to complete to fulfill your degree requirements? 30 units total are required. You can obtain the Advancement to Candidacy Form for a list of requirements for your concentration from the Biology Office.

<table>
<thead>
<tr>
<th>Semester and Year</th>
<th>Course Number</th>
<th>Course Title</th>
<th>Units</th>
<th>Completed/In Progress/To Do</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. If you are considering applying to academic programs after graduating from SFSU, please fill out the table below. Look up requirements for admission at these institutions. Work in consultation with your advisor to get advice about how best to prepare for these programs.

<table>
<thead>
<tr>
<th>Your UG Major</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Your GPA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRE/MCAT Scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Test Scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior Research Experience</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Training Program 1</th>
<th>Training Program 2</th>
<th>Training Program 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institution Name</td>
<td>Program</td>
<td>Test Requirements</td>
</tr>
<tr>
<td>Other Requirements</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. Describe the overall goal of your research, research question(s) to be addressed, and general approach of your current research project. Work with your advisor to define these goals and find relevant resources to help you.

Overall Goal:

Research Question(s):

General Approach(s):
6. While at SFSU, you will need to develop your skills and abilities to achieve your short-term and long-term goals. Complete the table below to help you identify the skills to prioritize.

<table>
<thead>
<tr>
<th>Below is a list of my talents and strengths that I can bring to my SFSU research training experience</th>
<th>Below is a list of skills and knowledge that I would like to enhance. (For example, research techniques, presentations skills, and other skills.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. Create a timeline to achieve these goals. Below is an example.

- **Fall Semester 2017:** Read literature and develop thesis project with advisor
- **Spring Semester 2018:** Begin experiments and form a thesis committee
- **Summer Semester 2018:** Gather data for thesis and present poster at meetings
- **Fall Semester 2018:** data analysis conducted, and apply to graduate (Ph.D. programs)
- **Spring Semester 2019:** Finish writing thesis and present to the department

<table>
<thead>
<tr>
<th>Checkpoint (Month, Year)</th>
<th>Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8. Establish your plan for meeting with your academic and research mentors.

*Examples of meetings with mentors and targets*

- Meet with Research Adviser once a week
- Meet at least quarterly to address career counseling and professional development activities
- Meet with thesis committee once every semester

<table>
<thead>
<tr>
<th>Meeting Date(s)/Frequency</th>
<th>Meeting Purpose/Target/Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. An important aspect of the research training experience is the opportunity to attend and present your research at a scientific meeting. Please discuss these options with your mentor to plan the appropriate venue for you to share your results with the broader scientific community. When and where are these conferences and deadlines for submission of abstracts and travel awards.

10. List the days and times that you plan to devote towards your research project this semester. Communicate with your advisor about how your plan to set realistic expectations about goals for the semester. Establishing an achievable regular schedule will help to ensure you reach your short-term goals.

<table>
<thead>
<tr>
<th>Times</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Weekend</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Given all the things that you would like to achieve, it is important for you to maintain your health and well-being. List below specific coping mechanisms and support that will help you most while pursuing your goals.
Independent Development Plans – Electronic Resources

Independent Development Plan and Self-Assessment Information

- SACNAS IDP worksheets: [https://docs.google.com/file/d/0B6jsUuSlqDackxTMVp5eks2X2M/edit?pli=1](https://docs.google.com/file/d/0B6jsUuSlqDackxTMVp5eks2X2M/edit?pli=1)

Resources


Academic Career Opportunities

- American Association for the Advancement of Science [http://sciencecareers.sciencemag.org/](http://sciencecareers.sciencemag.org/)
- On-line Listserv: Tomorrow's Professor: [https://tomprof.stanford.edu/](https://tomprof.stanford.edu/)
Most scientists have benefited from mentoring or have served as a mentor. Here we offer our perspectives on these processes. Although we are at different places in our careers and experiences, we agree on some core components of mentoring: the importance of recognizing individual needs and experiences, the possibility of building long-lasting relationships through mentoring, and the need to recognize that mentoring is a two-way relationship.

Through our experiences as “outsiders,” either as a member of an underrepresented minority (Hines) or as a woman (Wandinger-Ness), we have gained insights as both mentees and mentors.

Acknowledging Individuality and Personal Experiences

There is no blank slate; each of us is a composite of our personal and professional life experiences. It is therefore important for both mentors and mentees to acknowledge individual strengths and weaknesses and to draw on metacognition. We have found it helpful to articulate individual needs both orally and in writing to ensure that there is agreement on what each partner in the mentoring relationship needs and can provide. This is crucial to get past the danger of stereotyping and projecting goals onto the partners.

Formal individualized career development plans are helpful for both partners to reach agreement and get what they need. There are a number of online resources for getting started (e.g., the plans for graduate students provided by University of Minnesota) and the Medical College of Wisconsin, for postdoctoral fellows by the Federation of American Societies for Experimental Biology, and for junior faculty by the University of California, San Francisco, Division of General Internal Medicine).

For mentors, such a process is a great way to attend to the individuality of trainees and their specific needs and goals. For mentees it enables the articulation of specific priorities the achievement of which is measurable and visible. Developing an honest, mutually agreed plan is central to achieving goals and for success that is satisfying for both the mentor and the mentee.

Frequent evaluation of progress toward goals through self-assessment and mentor feedback helps ensure that individual needs are met. It can identify problems that need attention early before a crisis develops. Sometimes success depends on seeking and recommending counsel from others. Widening the mentoring network may be important to match mentee needs with individual mentor strengths. There may be difficult issues to be broached with which other potential mentors have more experience. For example, for women and minorities, the
“Imposter syndrome” and being “iconic” or “a poster child” are lived experiences that can create a sense of isolation. Receiving wisdom from women and minorities who have worked through these challenges is very meaningful and especially helps mentees who feel “different” or isolated to move forward.

Finding suitable role models is often the key to helping mentees develop a sense of inclusion. Both of us have identified role models throughout our careers: peers, teachers, and people in leadership positions who served as mentors or advisors and were essential for visualizing the successes of women and minorities and overcoming low points or self-doubt. Relationships founded on mutual trust and honesty enable mentor and mentee to have a dialog about their individual needs.

**Building Long-Lasting Relationships: Mentoring as Family**

Mentoring relationships often begin with family members and expand to include particular lab members, lab directors, colleagues, and peers. These relationships grow and mature over time and often continue long after mentees have left the home lab, institution, or job and gone on to independent careers.

Like family relationships, mentoring relationships can be complex. Mentors may have to serve different roles. Sometimes they provide nurturing and support when mentees are in need of encouragement and perspective. At other times mentoring, like being a parent, requires pushing and urging the mentee, which may initially be resisted by mentee. Later the mentee may realize that the mentor had his or her best interests at heart.

As with family, retaining contact, sharing goals and aspirations, celebrating success, and having honest, two-way dialogue about difficult issues are all central to vibrant, long-lasting mentoring relationships. Mentors often enjoy hearing from former trainees and can offer continued support in the form of letters of recommendation, advice, and counsel long after mentees have moved on. And of course mentees can benefit from reaching back to past mentors, providing updates on their own progress and receiving advice.

The extended lab and scientific family when nurtured and supported brings a special reward: being part of a vibrant network through which new connections are made, information and experiences are exchanged, and transitions to the next career phase are facilitated.

**Reciprocity through Mentoring Platforms and Reverse Socialization**

Most of us have occupied several “rungs” on the mentoring ladder during the course of our careers. Indeed, it is common to be simultaneously both a mentor and a mentee. In the more standard view of mentoring, the mentor of some higher status or level of knowledge gives assistance or guidance to the mentee, who has less experience. In other words, individuals on higher rungs provide information and opportunities for those at lower levels, while they themselves receive advice from superiors. In this view, the mentoring ladder is a unidirectional progression. This perspective on mentoring excludes the idea of reciprocity between mentor and mentee and the opportunity for the mentor to learn from the mentee.

However, we can expand the value and benefit of the mentoring relationship by acknowledging the deeper interactions between mentor and mentee. In this alternative view, the mentoring ladder is seen as a two-way progression with each ladder rung as a platform that allows individuals to meet on the same level and gain and learn from those traditionally considered above or below on the ladder. Common platforms are where mentor and mentee gain mutual experience from each other, and this model recognizes the reciprocal reward for the mentor and mentee. Reciprocity is a key feature of this version of the mentoring ladder. The process whereby traditional teaching roles are reversed and, for example, a child teaches the parent or a mentee teaches the mentor is called reverse socialization.

In summary, through our diverse experiences, we find that mentoring entails acknowledging individuality and personal experiences, building
long-lasting relationships (mentoring as family), and reciprocity through mentoring platforms. These core foundations have enhanced our mentoring relationships and contributed to our success and satisfaction.

— Christopher M. Himes, Massachusetts College of Liberal Arts, and Angela Wandinger-Ness, University of New Mexico

Notes
1. www.grad.umass.edu/career/IDPgrad.pdf
2. www.ncw.edu/VirtualCareerCenter/IndividualDevelopmentPlan.htm

The authors thank 2005 E.E. Just Awardee Maggie Werner-Washburn and ASCB Minority Affairs Committee Chair Remote Aguilera for helpful comments.

Christopher M. Himes has the perspective of a mentor who recently began serving in a mentoring role. He has benefited from mentoring and research opportunities gained through programs for students from groups traditionally underrepresented in graduate education. He has recently contributed back to such programs, mentoring women and other students from underrepresented backgrounds.

He was an Institutional Research and Career Development Award (IRACDA) Fellow of the Academic Science Education and Research Training (ASERT) Program at the University of New Mexico. He is now STEM Outreach Manager for the Massachusetts College of Liberal Arts. As a student, Himes received support from the Ronald E. McNair Post-Baccalaureate Program. The McNair program commemorates the achievements of African American physicist and astronaut McNair and supports the training and mentoring of first-generation college students with financial need and students from groups traditionally underrepresented in graduate education and with strong academic potential. Himes has recently served as a mentor through the Undergraduate Opportunities Program at the University of New Mexico.

Angela Wandinger-Ness is Director of the IRACDA ASERT program at the University of New Mexico. She draws on cultural heritage and a love of science instilled by parents, inspired teachers, and key role models. As the long-standing PI of a federally funded research program and director of a training program with a focus on increasing diversity in science, she has advanced, nurtured, and mentored more than 100 undergraduate, graduate, and medical students, postdoctoral fellows, and junior faculty toward successful and independent careers. The majority were women and trainees from various cultural, ethnic, and socioeconomic backgrounds.

A New Look for ASCB’s Journals

Molecular Biology of the Cell and CBE—Life Sciences Education have unveiled updated and redesigned websites. Readers will enjoy the new, more contemporary design, better and more flexible use of screen real estate, and enhanced functionality.

New features include:
- Links to selected articles on the homepage
- Lists of most-read and most-cited articles
- Links to other ASCB resources
- The ability to view abstracts from the table of contents by mouse over links
- An expandable reading frame for HTML versions of articles
- RSS feeds

More enhancements are coming soon. Check out the redesigned websites: www.molbiocell.org and www.lifescied.org.

— W. Mark Leder
SF State Biology Mindset is the Growth Mindset.

<table>
<thead>
<tr>
<th>Rule focus</th>
<th>Fixed Mindset</th>
<th>Growth Mindset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning</td>
<td>Look smart at all costs - Students, when given a choice between a challenging task and a familiar task, opted for the latter.</td>
<td>LEARN - students believed they were able to learn.</td>
</tr>
<tr>
<td>Challenges</td>
<td>Don’t make mistakes - Mistakes were viewed as a lack of ability with the reasoning that if they had the intelligence they would do well the first time.</td>
<td>Take on challenges - Students were motivated to take on challenges as they knew they would learn from these.</td>
</tr>
<tr>
<td>Effort</td>
<td>Don’t work hard - Students believed that the need for hard work suggested that they had low intelligence - linking to rule 2.</td>
<td>Work hard - Students believed that effort enhanced ability.</td>
</tr>
<tr>
<td>Responding to mistakes</td>
<td>If you make mistakes don’t try to repair them - When students did badly in a test, most were less likely to study for the next one and some would consider cheating.</td>
<td>Confront deficiencies and correct them - Students were eager to use their setbacks as a learning experience and continue to try to improve.</td>
</tr>
</tbody>
</table>
What Is Impostor Syndrome?
Can't take a compliment? Feel like a fake? Convinced you'll be unmasked at any moment? Welcome to the secret circle of high achievers suffering from Impostor Syndrome.

By Ellen Hendriksen, PhD,
Savvy Psychologist June 3, 2016

What Is Impostor Syndrome?
Impostor Syndrome is a pervasive feeling of self-doubt, insecurity, or fraudulence despite often overwhelming evidence to the contrary. It strikes smart, successful individuals. It often rears its head after an especially notable accomplishment, like admission to a prestigious university, public acclaim, winning an award, or earning a promotion.
Impostor Syndrome doesn't discriminate: people of every demographic suffer from feeling like a fraud, though minorities and women are hardest-hit. Impostor syndrome comes in 3 flavors:

Type #1: “I’m a fake.”
The fundamental fear is being discovered or unmasked. Achievers often feel like they’ve made it thus far under wraps, but the day will come when their cover is blown and they will be revealed as a fake.

For example, Adelaide is a tenured professor at a prestigious university. She is regarded as one of the leading researchers in her field and frequently travels to conferences and workshops, often in a leadership role. Recently, Adelaide attended a high-powered meeting. She remembers feeling intimidated as introductions took place in the book-lined, richly-paneled, high-ceilinged room. Someone was introduced as an “esteemed professor.” Adelaide looked around and realized, with a start, they meant her. “Internally, I was terrified,” she remembers. “I just knew that everyone at that table knew what they were doing, had earned their place, and that a giant mistake had been made in inviting me. I felt like any minute a spotlight would shine on me and I would be asked to leave.”
Not only accomplished professionals feel the sting. Take 18-year-old Don for example. He graduated high school at the top of his class and is headed off to an Ivy League university in the fall. He’s terrified. “I’m convinced the admissions department made a mistake. That place is for geniuses, not for people like me. I don’t belong there.”

Type #2: “I got lucky.”
The second flavor of Impostor Syndrome attributes achievements to luck. A twist on this is “I’m not smart/talented/gifted. I just work hard.”
Take Gerald as an example. He is an investigative reporter for one of the last-standing well-regarded city newspapers. He has cracked several national stories and numerous awards hang on the wall of his office. Yet he says, “Every time a feature story goes to print, I’m convinced it will be the end of my career. I got my other stories—and these honors—through sheer luck. I was just in the right place at the right time.”

The “I just work hard” variation is especially common among women. For example, Inez is a software engineer at a well-known tech company. Her reviews are stellar and she’s been promoted twice since she started. She arrives earlier than anyone in her otherwise all-male group and stays until the janitor goes home. “I haven’t been programming since I was 14 like these other guys,” she says. “I’m not a born engineer. I put in the hours just to stay afloat.”

**Type #3: “Oh, this old thing?”**

In *It’s a Wonderful Life*, George Bailey offers bombshell Violet a compliment. “Hey, you look good. That’s some dress you got on there.” Violet knows she’s rocking it. She twirls her hair. “Oh, this old thing? Why, I only wear it when I don’t care how I look,” she says, and sashays off, stopping traffic.

Violet is being falsely modest, but in Impostor Syndrome, sufferers truly can’t take a compliment. In the last variation of Impostor Syndrome, the receiver of an award or recognition discounts or downplays the honor. “I only got an A because the class was easy.” “That race I won wasn’t really important.” “I must have been the only one who applied.” “I’m not pretty; he’s just saying that.”

**How Does Impostor Syndrome Happen?**

Impostor Syndrome develops in a variety of ways. Here are 3 of the most common:

**Source #1: You’re so smart!**

The work of Dr. Carol Dweck, Professor of Psychology at Stanford, sheds light on a common parenting mistake. Well-meaning parents often praise kids with labels like ‘You’re so smart!’ or “You’re so pretty!” These labels, while meant to be complimentary, actually hinder kids. How? They imply that there’s nowhere left to grow. “You’re smart” implies that “smart” is a you’ve-got-it-or-you-don’t characteristic. Either you’re smart or you’re not, and there’s nothing you can do to alter it. Therefore, whenever kids make a mistake, they question the “smart” label. “If I got a C this once,
then maybe I’m not smart after all? Mom must be wrong.” As a result, it stifles kids’ willingness to try new things, for fear they might prove their label wrong. This lays fertile ground for Impostor Syndrome.

**Source #2: One of these things is not like the others.**

Women, racial minorities, or LGBT individuals may feel like they’re living a high-achiever’s version of the *Sesame Street* song, “One of These Things is Not Like the Others.” Indeed, individuals who don’t “match” the larger, majority culture of their school or company often struggle to feel legitimate. They may feel like they don’t belong, despite qualifications and accomplishments.

Navigating unfamiliar waters without a role model or mentor can exacerbate this kind of Impostor Syndrome. For instance, being the first in the family to attend college or have a white-collar career is a pioneering achievement, but can feel like a floundering imitation without an experienced guide. First-generation achievers may feel out of step both at home and in their new environment.

**Source #3: The side effects of meritocracy.**

High achievers are only high achievers when compared to others. Such folks have been compared to others their whole lives—when earning grades, winning honors, being selected into colleges, landing jobs. They often come out on top, which does two things. First, they value the process of comparison because they have done well by it. Second, they are extra alert to the process. Awareness of being evaluated and caring deeply about the outcome is an important mindset for success, but when it backfires, it lays a foundation for feeling like a phony.

**9 Ways to Combat Impostor Syndrome**

So what is a phony-feeling high achiever to do? Here are 9-ways to combat Impostor Syndrome.

1) **Know that feeling like a fraud is normal**

Impostor Syndrome is widespread. It is rampant in any exclusive circle, from high school honor societies to Nobel Prize winners. It is rarely discussed because each person feels they are keeping a secret. There is an element of shame and the fear of being discovered, so sufferers keep silent. However, whenever someone pipes up, hundreds more breathe a sigh of relief.

2) **Remind yourself of what you’ve accomplished**

Academics keep a curriculum vitae, roughly translated as “life’s work.” More than a resume, it is a list of everything they have accomplished. Do the same and read it over from time to time. Read
your old letters of recommendation. If you’ve been given an award, read the inscription. You don’t just look good on paper; you accomplished each and every achievement on that paper.

3) Tell a fan
Disclose your feelings to a trusted friend, your favorite teacher, or close colleague. Hopefully, you’ll come away with a pep talk to bolster your spirits. Warning: change the subject if your fan simply tells you to stop feeling insecure. If you could stop, you would have already!

4) Seek out a mentor
Ask a senior colleague, teacher, or coach for guidance navigating work or school. If possible, seek out a mentor who matches your gender or ethnicity. Get-It-Done Guy has a wonderful article on Choosing a Mentor.

5) Teach
Or become a mentor. You’ll be surprised how much you know. We often forget what it’s like not to know something. Furthermore, as we become experts in a field or rise to the top of the class, we are conscious enough to realize how much we have yet to learn, which amplifies the sense of fraudulence. Only when we contrast ourselves with true newbies do we gain perspective. Remind yourself how far you’ve come by nurturing the next generation.

6) Sometimes it’s OK not to know what you’re doing
After experiencing any big life event, like starting at a new school or a new job, there is a steep learning curve of adjustment. Rather than hiding, think of yourself as a “public amateur” or a “purposeful impostor” - someone who is learning and gaining expertise in the public eye. It’s OK to come to the table with nothing to offer, as long as you’re enthusiastic about learning.

7) For kids, praise effort
To counteract the mistake of praising traits, as in “You’re so smart!,” praise effort instead. Compliment kids with, “You worked so hard on that!” or “You kept at it even when it didn’t work out.”

8) Build in an expectation of initial failure
The author Anne Lamott titles every new work “Sh*tty First Draft.” My neighbor told her child, “Here’s your new scooter. You have to fall off at least 10 times before you get good.” Allow yourself similar leeway to stink it up at any new beginning.

9) Keep a little Impostor Syndrome in your pocket
Stay humble, my friends. A balancing point exists between Impostor Syndrome and slick, grinning egomania. Authentic modesty keeps you real.

So there we have it: 9 things you can do to mitigate the effects of Impostor Syndrome. And of course, you're not alone. Simply remember the words of Tina Fey, a self-described impostor: “Everyone else is an impostor, too.”
Scholarships and Opportunities
Biology Department
Graduate Teaching Assistantship (GTA)
and Graduate Assistant (GA)

Our Goals

-To make a commitment to students for funding during their 1st year.
-To give priority to graduate students to gain teaching experience in appropriate courses.
-To match qualified students to available courses.
-To help students build skills in teaching.

What you need to do:

Complete the GTA/GA application. The biology graduate secretary will email a link for the application.

How will the Graduate Committee match students and classes?

The Graduate Committee will match qualified candidates to courses that need GTAs. The Graduate Coordinators for each section will be able to determine if students are qualified to teach courses within the concentrations based on the following:

Students who have taken or are enrolled in SCI750 (Scientific Teaching) will have priority for placement.

Students will be ranked in terms of GPA and prior teaching experience. Priority will be given to students who best match teaching needs.

Students who do not have specialized training but have earned at least a B or better in general biology courses will be able to teach BIOL101.

The committee will strive to balance placement of both current graduate students and incoming students, such that courses will have both experienced and new instructors if possible.

Lecturers who coordinator lab sections will be able to give input into the qualifications of students.

The department will prioritize making ~25 offers to incoming graduate students (for Fall placements).
What are the positions like?

There are two different positions: GTA (generally teaching a lab course) or GA (assisting with a course, either grading or helping the instructor). A student cannot work more than 20 hrs/week total. The salary is based on a scale of $2448 per 2 workload units (WTU) per semester. Though this salary is modest, it puts our GTAs as among the highest paid in the college.

Base Rates (as of 7/12/2016):

**GTAs**
- 5.33 hrs/week commitment (3 hrs lab + prep) (2WTU) = $2520/semester
- 8 hrs/week commitment (3 hrs lab and 1 hr lecture + prep) (3WTU) = $3781/semester
- 10.67 hrs/week commitment (6 hrs lab + prep) (4WTU) = $5041/semester

**GAs**
- 5 hrs/week commitment (2WTU) = $1498/semester
- 10 hrs/week commitment (3.75WTU) = $2810/semester
- 15 hrs/week commitment (5.7WTU) = $4271/semester
- 20 hrs/week commitment (7.5WTU) = $5620/semester

Examples of workloads for GTAs or GAs

**Option 1:**
GTA for 4 WTU = $5041 per semester

**2 sections of these 2 WTU courses**
Each section meets once a week for 3 hours each time.  
If you teach 2 sections, each week the prep is the same for each section

Courses
- BIOL101-Human Biology (~18 section to staff)
- BIOL150-Plant Biology (5 sections to staff),
- BIOL313-Principles of Ecology (2 sections to staff)
- BIOL213-Physiology (4 sections to staff),
- BIOL482-Ecology (3 sections to staff),
- BIOL328-Anatomy (6 sections to staff)
- BIOL211-Introduction to Microbiology (4 sections to staff). This class meets twice per week, but the total number of hours/week is still 3 hrs total.

**1 section of this 4 WTU courses**
1 lab section, which meets twice a week for 3 hours each time. 
Each meeting may require separate prep work.

Courses
- BIOL230 – Introductory Biology (~10 sections to staff)
**Option 2:**
GTA for 3 WTU = $3781 per semester
1 section of this 3 WTU courses
1 lab section which meets twice a week for 2 hours each time.
Each meeting may require separate prep work.

Courses
BIOL240 – Introductory Biology (~10 sections to staff)

It is also possible to teach two sections of BIOL240.
This would represent 6 WTU and entail 2 lab sections which each meet twice a week for 2 hours each time.

**Option 3:**
If you are interested in a course that qualifies to hire a GA, then you can consider a combination of GTA for one course and GA for another course.

For example:
GTA BIOL101 (1 section) $2520
GA for 10 hours/week $2810
Total $5330

If you are interested in serving as a GA, we recommend that you contact the instructor of that course the semester and let them know of your interest and qualifications. Also, consult with your research advisor about opportunities to help teach their classes.

Courses that have GA positions:
- Courses with over 60 students = 5-15hr/week allocation depending on class size.
- GWAR courses: 10 hr/week
- Field and lab courses (that don’t use GTAs): 5-10hr/week
(5) - **Arthur Nelson Scholarships** will be awarded in the amount of $1,500 each to a MS degree candidate in any major in biology.

(1) - **Non-Resident Graduate Scholarship** will be awarded in the amount of $1,500 to a non-resident MS degree candidate in any major in biology.

**Criteria**

11. Student must be currently enrolled full-time (8 units) in one of the Biology Master’s degree programs. (Master’s candidate who is working on thesis or final project needs to be enrolled in a minimum of 6 units).

12. Applications will be evaluated by academic merits, ability to communicate research, and demonstration of strong financial need.

**Requirements**

- A completed application form (see below).

- An unofficial current copy of SFSU transcript and current semester class list.

- A list of current financial support reported in the Financial Aid Reporting Table (see below).

- A summary of less than 1000-words describing proposed or current research.

- A written recommendation from your research mentor/SFSU academic advisor. Letters should detail the faculty member’s familiarity with the student, the value of the student’s proposed research and should comment on the student’s ability to successfully conduct and complete the proposed project.

**Bring the completed application packet to**

The Biology office HH 534
Attention: Biology Scholarship Committee

*Application form, sealed and signed recommendation letter (or faculty can directly email the letter to biograd@sfsu.edu), unofficial transcript, current class list, current financial support and research summary.*
Department of Biology  
Application for Graduate Scholarships

Name: 

Address: 

Phone: 

Email: 

Student ID#: 

Non-Resident Status: Yes or No

Please also include the following with your application:

- Unofficial SFSU transcript, current class list, and list of current financial support reported in the table attached to this application.

- Letter of recommendation from research mentor/SFSU academic advisor in a signed, sealed envelope (or directly email to biology@sfsu.edu).

- A summary of less than 1000 words describing proposed or current research. The research statement should provide a clear description of the project and include (a) an Introduction with relevant background information, (b) detailed Hypotheses of the project, (c) brief Methods that test these hypotheses and d) Significance and novelty of the research in your field of study. References should be used but will not be included in the 1000-word count. The judges will be from broad biological disciplines.
Financial Aid Reporting Table
* Please report all financial support for Fall 2017 and Spring 2018 semesters
* If you do not have a particular kind of support then leave this area blank.

<table>
<thead>
<tr>
<th>FINANCIAL SUPPORT</th>
<th>AMOUNT (Total for F’17 &amp; Sp’18)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Direct Subsidized Loan</td>
<td></td>
</tr>
<tr>
<td>Federal Direct Unsubsidized Loan</td>
<td></td>
</tr>
<tr>
<td>Federal Graduate Plus Loan</td>
<td></td>
</tr>
<tr>
<td>State University Grant</td>
<td></td>
</tr>
<tr>
<td>Federal Pell Grant</td>
<td></td>
</tr>
<tr>
<td>Scholarship/Fellowship</td>
<td></td>
</tr>
<tr>
<td>Graduate Teaching Assistant (GTA)</td>
<td></td>
</tr>
<tr>
<td>Graduate Assistant (GA)</td>
<td></td>
</tr>
<tr>
<td>Work Study/ Student Assistantship</td>
<td></td>
</tr>
<tr>
<td>Research Stipend/Salary</td>
<td></td>
</tr>
<tr>
<td>Other (please specify below)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
</tr>
</tbody>
</table>
College of Science & Engineering

SCHOLARSHIPS

for UNDERGRADUATE
and
GRADUATE STUDENTS

due dates on
website

COSE Advisory Board Scholarships ($2,500)
for ONE graduate student in the College of Science & Engineering

Bruce A. Rosenblatt
Community Service Scholarships ($1,250)
for FOUR COSE undergraduates or graduate students
with 100 hours of Community Service

David and Cary Cassa Memorial Scholarships ($1,000)
for TWO COSE undergraduate students who live in San Francisco

C.Y. Chow Memorial Scholarships ($1,000)
for TWO undergraduates in the Department of Computer Science or Mathematics

James C. Kelley Scholarships ($1,000)
for ONE undergraduate or graduate student
in the field of marine or environmental science

Applications and additional information are available on the Scholarship Bulletin Board (between SCI 244 & 246) or at www.sfsu.edu/~science
ARCS Scholarships ($10,000) for SIX graduate students in the Departments of Biology, Chemistry & Biochemistry, Computer Science, Earth & Climate Sciences, Mathematics, and Physics & Astronomy

Robert W. Maxwell Memorial Scholarships ($4,000) for TEN graduate students in the COSE Departments of Biology, Chemistry & Biochemistry, Computer Science, Earth & Climate Sciences, Engineering, Geography & Environment, Mathematics, Physics & Astronomy, and Psychology

Online application process and information on additional criteria are at sfsu.academlcworks.com and search for the scholarship name listed above—ARCS or MAXWELL

Questions? Contact Lannie Nguyen at science@sfsu.edu
SEO Fellowship Opportunities 2017-18

Student Enrichment Opportunities Office

SFSU SCI 200
415-338-1305
seo@sfsu.edu

For application information:
https://faculty.sfsu.edu/~fbayl/content/student-enrichment-opportunities-office

Graduate Fellowships: For MS Students in Biology, Chemistry & Biochemistry, Physics, Mathematics or Computer Science in support of pursuit of a research PhD.

MA-MS/PHD BRIDGE PROGRAM (Bridge)
(Support = $19,200/year + Tuition)
Application deadline: March 17, 2017

RESEARCH INITIATIVE FOR SCIENTIFIC ENHANCEMENT (RISE)
(Support = $21,000/year + Tuition)
Application deadline: March 17, 2017

GENENTECH DISSERTATION FELLOWSHIP
(Support = $21,000/year + Tuition)
Application by invitation only for second year MS students.

CALIFORNIA INSTITUTE OF REGENERATIVE MEDICINE BRIDGES TO STEM CELL RESEARCH (CIRM)
(Support = $30,000/year + Tuition)
Application deadline: February 1, 2017
http://biology.sfsu.edu/content/cirm_0

To prepare students from underrepresented groups for biomedical careers by providing academic support and a stimulating research experience.

San Francisco State University | We Make Success Happen