

# **Biology Graduate Student Manual**



SF STATE

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DEPARTMENT OF BIOLOGY

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# Letter from the Department Chair

Dear Colleagues,

Welcome to SF State! We are so excited that you have decided to join our Master's program. Our department offers a dynamic learning environment, exciting research opportunities and mentorship by world-class scientists. We are excited that this semester brings 80% of our courses in person, giving you a chance to experience the excitement of discovery through intensive laboratory and field experiences research. Our department is committed to serving the needs of a diverse student population, a geographic region rich in ecological complexity and a developing workforce at the forefront of fundamental life science, conservation, biotechnology and health.



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 ([chud@sfsu.edu](mailto:chud@sfsu.edu)) the grad coordinator starting this fall), are excellent sources of information. All of our office staff (Giovanna, Jee, and Mika) are here to help as well. If you have any questions for us, you can e-mail us ([biograd@sfsu.edu](mailto:biograd@sfsu.edu)) with any questions you might have. Alternatively, you can visit Giovanna in the office (Hensill Hall 534). 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, climate change mitigation, 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, the ongoing struggles with COVID and Climate Change highlight the need for people who support evidence-based policies and a willingness to make a difference through science. As a student in the Department of Biology, 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

# Biology Graduate Coordinators



**Department Graduate Coordinator  
& Coordinator for Cell Molecular Biology**  
Dr. Diana Chu  
[chud@sfsu.edu](mailto:chud@sfsu.edu)



**Coordinator for Integrative Biology**  
Dr. Andrea Swei  
[aswei@sfsu.edu](mailto:aswei@sfsu.edu)



**Coordinator for Physiology and Behavior**  
Dr. Robyn Crook  
[rcrook@sfsu.edu](mailto:rcrook@sfsu.edu)



**Coordinator for Professional Science Master (PSM)**  
Dr. Lily Chen  
[lilychen@sfsu.edu](mailto:lilychen@sfsu.edu)



**Graduate Program Administrator**  
Giovanna Tuccori  
[gmt@sfsu.edu](mailto:gmt@sfsu.edu)

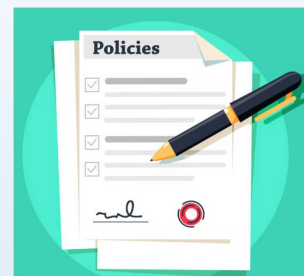
# **General Requirements for Degree**

***(Important documents page 24)***

# Biology Graduate Policy (page 1 of 7)

## Department of Biology 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 (<http://bulletin.sfsu.edu/graduate-education/academic-policies-procedures/>). The Faculty of Biology at San Francisco State University have discretion over all graduate matters in the department. Faculty set policy and expectations, and have final say over any decisions regarding graduate programs in the department.



The responsibility of adhering to the policy falls on the student, advisor, and committee members for that student's thesis (both faculty and non-faculty members). All Graduate Students in Biology must sign a submitted copy of the policy attesting that they are aware of and accept all expectations of the policy. The signed copy will be retained in the student's file within the Biology Department Office.

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## Acceptance into the Graduate Program in Biology

### Minimum Qualifications:

Bachelor's degree (not necessarily in Biology)

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 is not required (it can be submitted, but it is not used in evaluation for acceptance).

Acceptance by an SFSU Biology Tenured/Tenure-Track Professor, CAS Research Professor, or 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.

### Conditionally Classified Graduate Students

Students who are accepted into the Department of Biology are considered Classified Graduate Students. Occasionally classified graduate students are accepted conditionally with conditions set by the graduate coordinator and advisor. Graduate students must satisfy all of these conditions prior to filing their Advancement to Candidacy (ATC) form. Courses used to fulfill conditions cannot be used to fulfill the 30 units required for graduation.

# Biology Graduate Policy (page 2 of 7)

## Progress in the Program

### Research

Graduate students must make continuous satisfactory progress toward their degree by completing a minimum of six units of coursework/research each year.

Graduate students should discuss with their advisor the number of research units to be taken each semester and the expectations for work to be completed for these units before enrolling in Biology 897 (research units that can include lab, library, and/or field research). It is the responsibility of the advisor to determine the grading system for Biology 897. This should be discussed clearly with the student prior to enrolling in the course for that semester.

### Grades

In line with University policy, SFSU Graduate students must maintain a 3.0 (minimum) grade point average throughout their graduate career.

### Academic Probation

Students who do not maintain a minimum GPA of 3.0 are placed on academic probation for one semester. Students who fail to recover from academic probation the semester they are on probation are subject to declassification (i.e., dismissal from the Biology Graduate Program).

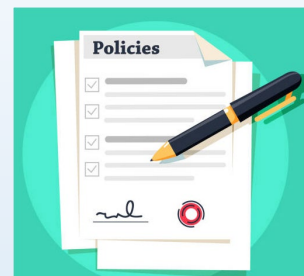
### Continuous enrollment in the University

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 consecutive semester are dropped from the University, hence from the graduate program in biology. To be readmitted, the student must reapply to the University.

### Roles of the Student and Faculty Advisor

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.

- Graduate students should orient themselves to department policy regulations and expectations. Students are also expected to become familiar with university-wide policies.
- The Faculty Advisor is expected to help guide the student to define the nature and scope of their thesis project and maintain a clear and helpful line of communication, with special regard to the Faculty Advisor's and thesis committee's expectations of the student. In particular, the Faculty Advisor ...



## Biology Graduate Policy (page 3 of 7)

...should explain specific expectations for signing off on a student's M.S. thesis or project report in writing. This should occur during the initial application process and upon acceptance into the Faculty Advisor's lab. These expectations can be adjusted by mutual agreement between the student and advisor during the course of the student's study as appropriate and should be documented in writing.



- When recruiting Committee Members, both the student and the Faculty Advisor must fully communicate these (above) expectations to potential Committee members before that person makes the decision to join the committee.
- The Faculty Advisor is expected to clearly communicate the availability and conditions of financial support for research and living expenses during the M.S. thesis during the initial application process and during the thesis project.
- Faculty Advisors are expected to help to advise students on course selection and course load each semester.
- Students are expected to organize at least one thesis committee meeting during their second or third semester. The purpose of this meeting is to defend the prospectus and obtain general agreement on the scope of the thesis project. The prospectus must therefore be sent to the committee before this meeting. The Faculty Advisor will provide timely feedback on the prospectus.
- Students and Faculty Advisors are expected to sign forms in a timely manner, 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.
- Faculty Advisors are expected to support student efforts in seeking funding to support research and education. They are expected to promote professional development of graduate students, including participation in workshops, attendance at professional meetings, presentation of posters and papers, and communication with colleagues in their field. They are expected to provide timely feedback in helping student develop funding applications.
- The Faculty Advisor shall have complete discretion over the content of the graduate student's thesis research, with the understanding that the committee sets a minimum expectation as well as a maximum beyond which the student can expect to have graduated. The general expectation is that students will graduate in five semesters or less. After six semesters there will be a mandatory committee meeting at the beginning of each academic year to discuss progress.
- If the student or Faculty Advisor fails to meet these expectations, either party should consult with a Graduate Advisor (a member of the Graduate Affairs Committee) within their emphasis or the Graduate Coordinator in the Department. A role of the Graduate Advisors or the Graduate Coordinator is to facilitate communication between students, Faculty Advisors, and Committee Members and provide advice on Department and University Policies.



# Biology Graduate Policy (page 4 of 7)

## Committee Membership

- Minimum of three Committee Members (this exceeds the SFSU minimum of two per university policy) and a maximum of five committee members
- At least two Committee members must be SFSU Tenured/Tenure-track Professors of Biology, or CAS Research Professors, or RTC Research Professors
- Any outside readers (not falling into the above categories) must be placed as the third signature on the thesis (per university policy)
- Committee Members have a responsibility to attend at least one committee meeting (in tandem with thesis prospectus), provide feedback on the thesis prospectus, attend the thesis defense, and provide feedback on the thesis.
- The student should communicate with all Committee Members well in advance about scheduling meetings, signing documents, and availability for providing feedback.
- Committee members have a responsibility to support the advisor in enforcing expectations of the student and a responsibility to support the student if the advisor is not meeting their responsibilities or agreed upon expectations.
- The Graduate Coordinator, Graduate Advisors, and/or Chair of Biology are available to facilitate communication amongst the student, Faculty Advisor, and Committee Members. They can also provide advice on Department and University Policies.



# Biology Graduate Policy (page 5 of 7)



## Changing Faculty Advisors

There are occasional situations in which the advisor-student relationship may be terminated prior to completion of the M.S. degree.

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 declassification 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 former advisor and the Department Graduate Coordinator in writing. The graduate coordinator and department chair will ensure that the student, the former advisor, and the future advisor sign a mutually agreed-on document acknowledging the circumstances and accepting the terms of the Biology Graduate policy.

## 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:

- Repeated failure to meet expectations of scholarship and deadlines set by the advisor. This failure should be documented in writing.
- Disruption of the educational and/or interpersonal environment of the lab.
- Unresolvable differences (personal and/or professional) with the advisor.
- Research misconduct such as falsification, fabrication, or plagiarism in proposing, conducting or reviewing research, or in reporting research results.

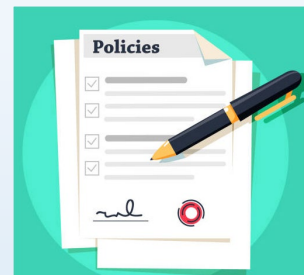
## Biology Graduate Policy (page 6 of 7)

Prior to dismissing a graduate student from a lab, the advisor and student should make every attempt to resolve the problem. The student or Faculty Advisor can ask for assistance from the Graduate Coordinator to facilitate communication.

Suitable written 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 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 Advisors, the Graduate Coordinator and Department Chair will ensure that the student, the former advisor, and the future advisor sign a mutually agreed-on document acknowledging the circumstances and accepting the terms of the Biology Graduate policy.

[Note: If a graduate student that has already advanced to candidacy relocates to another advisor, irrespective of reason, s/he must file a "Revised Culminating Experience Proposal" form. This does not apply to students who have not yet filed a "Culminating Experience Proposal" form.]



# Biology Graduate Policy (page 7 of 7)



## Rights of Students and Advisors

### Ownership of Research

All research, data, products, records, and intellectual property are the property of the principal investigator (faculty member) of the lab where the research was initiated regardless of whether the student changes labs, or institutions. Therefore, if a student leaves a lab, they will not be able to continue the research initiated in the lab they are leaving without permission from the former advisor.

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, as these obligations will apply to the student as well. The Graduate Coordinator (and/or members of the Graduate Affairs Committee) and Department Chair are available to mediate/arbitrate issues regarding the change in research projects, and will ensure that the student, the former advisor, and the future advisor sign a mutually agreed on document acknowledging the circumstances and accepting the terms of the Biology Graduate policy. Exceptions to this policy can be made by mutual agreement between the advisors and student and should be made in writing before work begins in the new lab.

### Authorship

Each advisor should set a policy on authorship including order of authors 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 status of authorship and/or orders of authors.

### 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 Affairs 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 Affairs 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. At the University level, the Dean of Graduate Affairs can also be available for consultation and advisement to all parties.

The Faculty of the Department of Biology has read and approved this Graduate Policy.

# Biology Graduate Policy – Signature Page

**Every student must sign the Signature page by September 1<sup>st</sup> to verify they have read the Graduate Policy.**

**You were emailed this page. If you did not receive it,  
Please contact Giovanna Tuccori (gmt@sfsu.edu)**

## **Biology Department Graduate Policy Signature Page Biology Department Copy**

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.

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



**Signature**



**Print your name here**



**Name of your PI /LAB**



**Date**

**Email this signature page to the Biology Graduate  
Secretary: Giovanna Tuccori: gmt@sfsu.edu**

# Sample 2-Year Student Timeline

## 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 1<sup>st</sup>.

## Third Semester

1. Meet with your research advisor regularly.
2. File your Advancement to Candidacy (ATC) form before October 1<sup>st</sup>.
3. File your Culminating Experience form before October 1<sup>st</sup>.



## 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.

# Requirements for Degree

## One Master's of Science degree in Biology

### **Cell and Molecular Biology (CMB) Concentration**

- merging Microbiology and the CMB stem cell emphasis

### **Physiology and Behavior (PB) Concentration**

- renaming Physiology and Behavioral Biology

### **Integrative Biology (IB) Concentration**

- renaming Ecology, Evolution and Conservation Biology (and merging Marine Biology)

**Curriculum: 30 units required for the degree, 15 units shared between concentrations**

### **Core Requirements (for all concentrations)**

**3 units: BIOL700 Introduction to Fundamental Research Skills** (NEW course): Students are introduced to the theory and practice of skills used by research scientists that include: research literature searches, basic concepts in visualizing and interpreting data, analyzing conclusions of research articles, ethics, and safety.

**2 units: BIOL870 Biology Colloquium:** Students analyze oral presentations of recent developments in biological research presented by outside speakers. Student participate in discussion with the speaker and learn to write critiques.

**6 units: BIOL 897 Research:** Applied practice of research skills in the laboratory or field.

### **4 units Culminating Experience**

Culminating Experience is a choice of either of these two courses. Students present their final research findings in written form – either a format suitable for publication in journals that are applicable to the scientific discipline OR a thesis.

**BIOL 895 Research Project (Units: 4) OR  
BIOL 898 Master's Thesis (Units: 4)**

**Also required** (these requirements differentiate the concentrations from one another):

### ***For Cell and Molecular Biology Concentration:***

**2 units of BIOL 861 Advances in Cell and Molecular Biology**

Prerequisite: Graduate standing or consent of instructor.

Topic to be specified in Class Schedule. May be repeated with different topics.

### ***For Physiology and Behavioral Biology Concentration:***

**2 units of BIOL 865 Advances in Physiology and Behavioral Biology**

Prerequisite: Graduate standing or consent of instructor.

Topic to be specified in Class Schedule. May be repeated with different topics.

### ***For Integrative Biology Concentration:***

**2 units of BIOL 862 Advances in Ecology and Systematic Biology**

Prerequisite: Graduate standing or consent of instructor.

Topic to be specified in Class Schedule. May be repeated with different topics.

***Total Requirements for each concentration = 17 units***

### **13 units of Electives**

Students would choose courses across the department upon advisement with their research advisor that is tailored to the student's scientific discipline, research project, experience, and career goals.

### **Note:**

-We are allowing 2 units of BIOL881 to be used on the Advancement to Candidacy (ATC) form

# General Program Requirements and Information (page 1 of 2)

## Selection of Committee

The committee must consist of a minimum of two and a maximum of five members. You should pick individuals with scientific expertise that can help you with your project and/or faculty that have had you in courses that can get to know you and write recommendation letters later.

The chair and the second member of your committee must hold tenured/tenure-track faculty appointments in your major department.

In circumstances where special expertise is available in another department, the graduate dean may authorize a designated tenured/tenure-track faculty member from a related department to serve as second reader.

With special permission, some long-term lecturers with terminal degrees in their field or with special expertise may serve as the second reviewer provided their curriculum vitae is on file in the Division of Graduate Studies.

The third member of a committee may be a lecturer or from outside the major department or university. Lectures or readers outside the university must hold a PhDs and have a current curriculum vitae on file in the Division of Graduate Studies.

To officially change the composition of your committee, you must submit a petition.

## 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 Administrator.



# General Program Requirements and Information (page 2 of 2)

## 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.  
Due: November 1 (to division of graduate studies)

## Animal/Human Subjects Protocol Form

*Only applies to research using vertebrates.* Consult with your research advisor in the 1<sup>st</sup> 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>

## Report of Completion

The Report of Completion 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

## 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 (this form is initiated by the head of your committee). This form will be electronically signed by your committee on the day of your defense.

Please see the biology department graduate administrator to review what you will need on the day of your defense.

# Steps to Graduation - Degree Checklist (page 1 of 2)

## 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.
- ☐ 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.

# Steps to Graduation - Degree Checklist (page 2 of 2)

The semester before you plan to enroll in your culminating experience (typically 3<sup>rd</sup> 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 (Post 2020 Zoom Defenses are typical)
- ☐ File Culminating Experience: Thesis, Research Project, and Report of Completion form, (request a Change of Grade form if Culminating Experience extended your grace semester.
- ☐ 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.  
<https://grad.sfsu.edu/content/apply-to-graduate>

## **\*\*IMPORTANT\*\***

- ☐ If you do not complete your Biology 895 or 898 course within a 2-semesters period, you are required to enroll in CEL 499 each proceeding semester until you have completed your requirement.

# Thesis Committee FAQs (page 1 of 3)

## Selection of Culminating Experience Committee

- The committee must consist of a minimum of two and a maximum of five members.
- The chair and the second member of your committee must hold tenured/tenure-track faculty appointments in your major department.
- In circumstances where special expertise is available in another department, the graduate dean may authorize a designated tenured/tenure-track faculty member from a related department to serve as second reader.
- With special permission, some long-term lecturers with terminal degrees in their field or with special expertise may serve as the second reviewer provided their curriculum vitae is on file in the Division of Graduate Studies.
- The third member of a committee may be a lecturer or from outside the major department or university. Lectures or readers outside the university must have a current curriculum vitae on file in the Division of Graduate Studies.
- To officially change the composition of your committee, you must submit a Petition for GAP Substitution or Committee Revision to GradStop (ADM 250)



## 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 3<sup>rd</sup> 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.

# Thesis Committee FAQs (page 2 of 3)



## **Things to consider in choosing your committee members:**

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.

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.

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 2<sup>nd</sup> 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.

# Thesis Committee FAQs (page 3 of 3)

## When should I meet with my Committee?



**1<sup>st</sup> semester:** Meet with your major advisor frequently and define your research project.

**2<sup>nd</sup> 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.

**3<sup>rd</sup> 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.

**4<sup>th</sup> 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



## 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) Proposal for Culminating Experience (PCE)

These forms are due the semester prior to the semester you plan to graduate. If your goal is to graduate in spring 2021, these forms are due fall 2020. The ATC and PCE are due for department review 1-month before they are due to the division of graduate studies.

- In the fall semester due to the department October 1 and Graduate division November 1.
- In the spring semester, due to the department March 1 and Graduate division April 1.
- The department will send out reminders.

For additional deadline, please visit the Division of Graduate Studies, Continuing Student deadline page: <http://grad.sfsu.edu/content/continuing-student-deadlines>

# **Important Documents Forms Examples**



# Graduate Thesis/Research Project Prospectus (page 1 of 4)

## 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 and enables the student to receive constructive feedback from their graduate committee members.

Please be sure to meet with your research advisor for guidelines specific to your field of study.

## Requirements

Prior to advancement to candidacy (but usually not earlier than the second semester), each student must write a prospectus for their thesis/research project.

- The thesis/research project prospectus should be at least 5 single-spaced pages and not more than 10.
- A timeline must be included that indicates when each section of the proposed work will be completed.
- A description of any preliminary work completed.
- Provide page numbers and relevant references.
- The thesis advisor shall determine the format of the prospectus.
- 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.

## Turning in the thesis prospectus:

The student should work in close consultation with her/his research advisor to write the thesis/research project prospectus. The research advisor must approve of drafts of the prospectus given to other committee members.

All three committee members are required to approve the thesis/research project prospectus. **Students must contact committee members at least one month prior to turning in the prospectus to the department.** This allows all individuals to schedule time to read the prospectus, give the student comments, allow the student to address comments, and the committee members to re-review.

# Graduate Thesis/Research Project Prospectus (page 2 of 4)

Download and complete the cover page that contains the thesis title, student's name, the names of the committee members, and the date.

- The prospectus is submitted your second semester prior to submitting your Advancement to Candidacy (ATC) and Culminating Experience (which are submitted your third semester).
- The deadline for fall semesters is generally the first week of October, and for spring the first week of March. **Students must submit their prospectus (two) semesters before they plan to graduate.**
- The prospectus is the template for the student's thesis, where information is added as work is completed.

## Prospectus Format:

Below are general guidelines to follow, which can be modified in consultation with the advisor. It is advisable to use the following headers:

### Name, Title, and Abstract page

Please state the **date**, your **name**, and the **title** of your thesis and include an **abstract**. The abstract should be less than 500 words.

### Research Plan (that includes figures)

***Background and Significance:*** 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 define information that sets up an important problem or unknown that you will address.

***Impact Statement:*** This should be a short section that succinctly states what impact your studies will have on your field and the public. State what will be possible as a result of your studies that is not possible without them.

***Hypothesis:*** 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 will be gained* 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)

# Graduate Thesis/Research Project Prospectus (page 3 of 4)

## Specific Aim 1:

Each aim may be sub-divided into questions that address a part of the aim. Sometimes a short ***rationale*** may be introduced here to help justify the aim further.

### Question 1

Explain the ***experimental design***. This should be a summary that provides enough information for a committee member not in one's field to understand the proposed work. It should NOT be a detailed protocol. It is important to provide a description of relevant controls and reagents.

Explain the ***expected outcome or result***. Explain potential pitfalls and alternative strategies to deal with such problems. If the work has been completed, preliminary results should be described.

State a short ***conclusion***. How does this result answer the question?

When in the overall ***timeline*** of your project will this section be completed?

### Question 2 (if needed)

Same format as Question 1.

### Summary/Conclusion of the Aim

How do the expected results and the conclusions from each set of experiments address the aim and the hypothesis? How is the knowledge gap filled? Why is it significant?

### Specific Aim 2 (if needed)

Same format as aim 1.

### Conclusions

Bring the reader back to the hypothesis? How will the completion of these studies move the field forward (include references)? What are the next steps?

### References (not included in page count)

# Graduate Thesis/Research Project Prospectus (page 4 of 4)

An Example Thesis Prospectus Outline  
(use this to help you plan/organize your written thesis prospectus)

**Title:**

**Student:**

**PI:**

**Abstract:**

**Key words:**

**Background/ Significance:** (include figures if appropriate)  
**Impact Statement**

**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 Rubric (page 1 of 2)

The columns describe the product expected from four levels (beginning, developing, and intermediate, advanced) during Prospectus development. This rubric should be used to help you develop and assess your own writing. It can also be used by you and your advisor so that he/she can give you feedback about how your prospectus is developing.

	Beginning	Developing	Intermediate	Advanced
<b>Significance and Background</b>	Lacking in arguments for significance. Impact of work is not addressed or vague. Terms not defined. Information flow is disconnected. Paragraphs are not well organized. Only 1 or 2 papers discussed.	Research field is introduced but significance is not compelling. Lacking in rationale. Impact is too long-term or not directly tied to research. Terms not defined consistently. Information does not consistently flow from broad to narrow. Paragraphs lack strong topic sentences. Few papers cited or discussed with little depth.	Research field significance is evident. Research may have low impact or incremental knowledge gained. Lacking in compelling rationale. The flow of information has some gaps. Topic sentences lack clarity. "Knowns" are vague. Lacking depth of knowledge of either papers in field or work done in author's lab.	Research topic significance is introduced in a creative or striking way. Clear and compelling rationale. Impact of proposed research directly addressed. Innovative aspects of proposal are described clearly. The flow of information is from Broad to Specific. Terms are defined as they are introduced. Paragraphs link logically and are introduced with strong topic sentences. "Knowns" are concrete. A depth of knowledge of displayed with cited papers within field and by the author or authors lab.
<b>Impact Statement</b>	Impact statement is missing or not supported by background information.	The impact is weak or does not connect directly from background information.	Impact statement is mostly well substantiated by background. May be wordy or not directly relevant to studies.	The impact the work will have is clearly identified. It follows logically from background and ties closely to the results that will be obtained
<b>Hypothesis and Aims</b>	Hypothesis is stated as a question or as expected results. Hypothesis does not address problem. Aims do not directly address hypothesis.	Hypothesis only partially addresses problem. Difficult to tell how aims address hypothesis. Aims don't consistently relate to hypothesis.	Aims don't consistently relate to hypothesis. Aims relate to hypothesis but are not compelling or will only provide incremental advances in knowledge.	Hypothesis is clearly stated. All components in hypothesis are described in the background section. Hypothesis addresses problem. Aims listed are concrete. Aims address hypothesis.

# Thesis Prospectus Rubric (page 2 of 2)

	Beginning	Developing	Intermediate	Advanced
<b>Research Design</b>	Lacking in rationale for methodology chosen. The description either is too detailed (like a protocol) or lack description (not possible to tell what will be done). Controls are not discussed. Experimental outcomes are not well thought out or missing. May be missing strong conclusions.	Weak rationale for why methodology is appropriate. The description of methodology lacks concrete information to understand what will be done or is not presented in a step-wise sequence. Experimental outcomes are vague. Conclusions are not consistently provided.	Rationale for methods is not consistently strong. Methodology description has good level of detail but may be missing some information to make it clear what steps will be undertaken. Experimental outcomes may not be consistently presented. Conclusions are not directly related to results described.	Strong rationale for the methods chosen is given. A clear description of the steps the proposer will use to conduct the experiment. Controls conditions are discussed. Experimental outcomes are included. How results address the aim or questions posed are clear. A timeline is given and is appropriate.
<b>Overall Conclusions</b>	Potential findings are discussed in a cursory or vague fashion. No discussion of similar work in the field. Lacking citations. Lacking tie back to significance.	Potential findings are discussed but lack depth. Information doesn't flow from narrow to broad. Little works is cited.	Potential findings are discussed and relevant citations are included but may lack depth or miss important information. Flow of information may be inconsistent. Tie to significance may not be strong.	Potential findings are discussed in relation to other papers in the field (relevant citations are included). Information flows from narrow to broad. Significance of work is addressed.
<b>Format and English Proficiency</b>	Overly long or short. Instructions not followed. Numerous grammatical and writing issues. Paragraphs lack structure and do not flow logically.	Some grammar issues. Paragraphs may have some structure but issues with topic sentences or logical flow may be evident. Information flow is inconsistent.	Organization is good but not consistently evident. Paragraphs may still lack clear topic sentences or logical flow.	Proposal is visually appealing and well organized. Paragraphs have strong topic sentences that are supported by sentences within. Information flows logically between and within paragraphs.

# Thesis Prospectus Signature Sheet

Email the graduate secretary your Thesis Prospectus and the signature form.

Giovanna Tuccori ([gmt@sfsu.edu](mailto:gmt@sfsu.edu))

The graduate secretary will upload the forms to docusign to obtain signatures.

**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

## ATC (Advancement to Candidacy)

**Advancement to Candidacy (ATC) Forms available here:**

<https://grad.sfsu.edu/content/grad-forms>

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ADMISSION FORMS

- Apply to SF State through

CAL STATE  
APPLY

Complete the online application for graduate admission and upload your unofficial transcripts and application documents to the Program Materials section of Cal State Apply.
- Certificate Admissions Application for Continuing SFSU Graduate Students

A continuing SFSU graduate student wishing to be admitted to a graduate certificate program at San Francisco State University is expected to follow the University requirements and procedures outlined herein and complete the prescribed program requirements

CONTINUING STUDENT FORMS

Advancement to Candidacy (ATC) Forms:

- Planned Course of Graduate Study
- ATC (Advancement To Candidacy)
- ATC Substitution

Culminating Experience (CE) Forms:

- Culminating Experience
- Culminating Experience Checklist

[illegible]



# ATC (Advancement to Candidacy) Procedures (page 1 of 2)

- **Email the graduate secretary your ATC form to review. Giovanna Tuccori (gmt@sfsu.edu)**  
**Once reviewed the graduate secretary will upload the form to docusign to obtain signatures.**
- Deadline October 1 (for graduate secretary to review)
- Deadline November 1 to submit to Graduate Division (for approval)
- ATC found at the division of graduate studies website:  
<https://grad.sfsu.edu/content/advancement-to-candidacy>

## Requirements for ATC:

### Three Concentrations: One Master of Science degree in Biology

- **Cell and Molecular Biology (CMB) Concentration**
- **Physiology and Behavior (PB) Concentration**
- **Integrative Biology (IB) Concentration**

### Curriculum: 30 units required for the degree, 15 units shared between concentrations - Core Requirements (for all concentrations)

- **3 units - BIOL700 Introduction to Fundamental Research Skills (NEW course):** Students are introduced to the theory and practice of skills used by research scientists that include: research literature searches, basic concepts in visualizing and interpreting data, analyzing conclusions of research articles, ethics, and safety.
- **2 units - BIOL 870 Biology Colloquium:** Students analyze oral presentations of recent developments in biological research presented by outside speakers. Student participate in discussion with the speaker and learn to write critiques.
- **6 units - BIOL 897 Research:** Applied practice of research skills in the laboratory or field.
- **4 units - Culminating Experience:** is a choice of either of these two courses. Students present their final research findings in written form – either a format suitable for publication in journals that are applicable to the scientific discipline OR a thesis.
- **BIOL 895 Research Project (Units: 4) or BIOL 898 Master's Thesis (Units: 4)**

# ATC (Advancement to Candidacy) Procedures (page 2 of 2)

## Additional Requirements

(these requirements differentiate the concentrations from one another):

- **For Cell and Molecular Biology Concentration:**  
2 units of BIOL 861 Advances in Cell and Molecular Biology  
Prerequisite: Graduate standing or consent of instructor.  
Topic to be specified in Class Schedule. May be repeated with different topics.
- **For Physiology and Behavioral Biology Concentration:**  
2 units of BIOL 865 Advances in Physiology and Behavioral Biology  
Prerequisite: Graduate standing or consent of instructor.  
Topic to be specified in Class Schedule. May be repeated with different topics.
- **For Integrative Biology Concentration:**  
2 units of BIOL 862 Advances in Ecology and Systematic Biology.  
Prerequisite: Graduate standing or consent of instructor.  
Topic to be specified in Class Schedule. May be repeated with different topics

**Total Requirements for each concentration = 17 units**

**Plus additional 13 units of Electives**

Students would choose courses across the department upon advisement with their research advisor that is tailored to the student's scientific discipline, research project, experience, and career goals.

## Note:

- We are allowing **2 units of BIOL881** to be used on the Advancement to Candidacy (ATC) form

# ATC Example

Advancement to Candidacy (ATC) Forms available here: <https://grad.sfsu.edu/content/grad-forms>

Email the graduate secretary your ATC form to review. Giovanna Tuccori (gmt@sfsu.edu)  
Once reviewed the graduate secretary will upload the form to docusign to obtain signatures.

San Francisco State University  
Division of Graduate Studies, Administration Building 250

Clear Form

## ADVANCEMENT TO CANDIDACY

FORM MUST BE TYPED

Masters of: Science Major: Biology

Concentration: Integrative Select University Bulletin year of admission: 2021

Name: John SmithEmail: jsmith@sfsu.eduStudent ID: 123456789

All requirements must be completed according to program guidelines or within 7 years from the term of admission to your graduate program continuous enrollment is required after enrollment in the culminating experience

Student: fill out the following information completely (including the semester and year each course was or when you plan to take it.)

Course Number	Course Title	Units Required	Units (to be) completed	Semester & Year	Institution (not SFSU) (transfer units only)*	Grade	Status
Required	Courses	13					
BIOL 700	Introduction to Research Skills	3	3	Fall 2021		A	Complete
BIOL 862	Advances in Ecology and Systematic Biology	2	2	Fall 2021		A	Complete
BIOL 870	Biology Colloquium	2	2	SP 2022		A	Complete
BIOL 897 - Research (6 UNITS REQUIRED)							
BIOL 897	Research		2	Fall 2021		A	Complete
BIOL 897	Research		3	SP 2022		A	Complete
BIOL 897	Research		1	SP 2023			To Do
Elective units requirements shall be determined by student's committee		13					
BIO 815	Advanced Phylogenetic Analysis		4	SP 2022		A	Complete
BIO 710	Advanced Biometry		3	SP 2022		A	To Do
BIO 848	Behavioral Ecology		3	Fall 2022			In Progress
BIO 815	Advance Phylogenetic Analysis		3	Fall 2022			In Progress
BIO 750	Science Teaching for Scientists I		2	Fall 2022			In Progress
One of the following Culminating Experience Options		4					
BIOL 895	Research Project and Oral Defense OR		4	SP 2023			To Do
BIOL 898	Master's Thesis and Oral Defense						To Do
Total Units		30min	32				

\*Only 30% of units listed on the Advancement to Candidacy may be upper division undergraduate coursework.  
\*Maximum of 6 units of BIOL 897      \*Maximum of 2 units of BIOL 881.

\*NOTE: For transfer work, a Request for Graduate Program Transfer Unit Evaluation must be submitted.

ADDITIONAL DEGREE REQUIREMENTS  
SECOND LEVEL WRITTEN ENGLISH PROFICIENCY REQUIREMENT:  
☒ THESIS PROSPECTUS SUBMITTED

SEMESTER/YEAR: Spring/Summer 2022

DEPARTMENT ADMINISTRATOR FOR REVIEW 1<sup>ST</sup>: (Required):  
Print Name: Giovanna Tuccori (gmt@sfsu.edu) Signature: \_\_\_\_\_ Date: \_\_\_\_\_

GRADUATE ADVISER/PI (Required):  
Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

GRADUATE COORDINATOR (Required):  
Print Name: Diana Chu (chud@sfsu.edu) Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Approved ☐ Not Approved ☐  
Dean of the Graduate Division or Designee  
Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_


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

# CE (Culminating Experience)

**Culminating Experience (CE) Forms**  
found at here: <https://grad.sfsu.edu/content/grad-forms>

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**ADMISSION FORMS**

- Apply to SF State through **CAL STATE APPLY**  
Complete the online application for graduate admission and upload your unofficial transcripts and application documents to the Program Materials section of Cal State Apply.
- Certificate Admissions Application for Continuing SFSU Graduate Students  
A continuing SFSU graduate student wishing to be admitted to a graduate certificate program at San Francisco State University is expected to follow the University requirements and procedures outlined herein and complete the prescribed program requirements

**CONTINUING STUDENT FORMS**

**Advancement to Candidacy (ATC) Forms:**

- Planned Course of Graduate Study
- ATC (Advancement To Candidacy)
- ATC Substitution

**Culminating Experience (CE) Forms:**

- Culminating Experience
- Culminating Experience Checklist

## Choose a Culminating Experience Form from the list below:

- 890: Culminating Experience Seminar (MBA only)
- 890: Culminating Experience Seminar (MSA only)
- 890: Culminating Experience Seminar
- 892: Supervised Field Internship
- 893: Written Creative Work
- 894: Creative Work Project
- 895: Field Study or Applied Research
- 896 EXM Option: Written or Oral Examinations
- 898: Thesis
- 998: Dissertation

# CE (Culminating Experience) Procedures

## Culminating Experience (CE) Forms found at here: <https://grad.sfsu.edu/content/grad-forms>

### Culminating Experience (CE) Form

- **Email the graduate secretary your CE form to review. Giovanna Tuccori (gmt@sfsu.edu) Once reviewed the graduate secretary will upload the form to docusign to obtain signatures.**
- Deadline October 1 (for graduate secretary to review)
- Deadline November 1 to submit to Graduate Division (for approval)
- CE found at the division of graduate studies website: <https://grad.sfsu.edu/content/grad-forms>
- Make sure to select the correct CE:  
Bio 895 for creative research project or Bio 898 for thesis.

### Requirements for CE:

- Work with your PI/committee members to come up with a project timeline
- CV for any non-Biology committee members
- Human or Animal Protocols (if required) Review Here: <https://research.sfsu.edu/protocol>

### Obtaining the Signatures:

- Send the biology graduate secretary all your documents; and you will be assisted in obtaining signatures via DocuSign.

# Biology 895 Research Project Guidelines (page 1 of 3)

## 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).

# Biology 895 Research Project Guidelines (page 2 of 3)

## 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 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?

## Biology 895 Research Project Guidelines (page 3 of 3)

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### **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.



# Culminating Experience (Biology 895 Example)

Email the graduate secretary your CE form to review. Giovanna Tuccori (gmt@sfsu.edu)  
Once reviewed the graduate secretary will upload the form to docuSign to obtain signatures.

San Francisco State University

Division of Graduate Studies ADM 254 (415)338-2234

## PROPOSAL FOR CULMINATING EXPERIENCE 895: FIELD STUDY OR APPLIED RESEARCH

REPORT OF COMPLETION REQUIRED

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 Molecular Biology  
Concentration or emphasis (if applicable)

2. Name John Smith Student ID 123456789  
Address 500 Cherry Street Phone (415) 555-8877  
City/State/Zip San Francisco, CA 94132 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

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

What happened to the Dodo Bird?

### 6. Brief statement of project and research (this must 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.

#### PLAN FOR COMPLETION OF CULMINATING EXPERIENCE

LIST COMPONENTS OR SECTIONS FOR COMPLETION	DATES TO BE SUBMITTED TO FACULTY FOR REVIEW
Advancement to Candidacy Form & Culminating Experience forms Submitted	10/01/2016
Travel to Santa Nevada to collect samples	04/15/2017
Meeting with committee to review thesis.	04/20/2017
Final Report	05/10/2017
Oral Defense	05/10/2017

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

Name John Smith Student ID 123456789

### 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@sfsu.edu](mailto:protocol@sfsu.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 SFSU 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.sfsu.edu/apply-application-determination-exemption>

#### 5. If you are UNSURE if your project is considered animal research, contact HAP at [protocol@sfsu.edu](mailto:protocol@sfsu.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 exemption or approval.

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

#### 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 (1) during winter break ☐ YES ☒ NO (2) during the summer months ☐ YES ☒ NO

#### Committee Chair:

SIGNATURE \_\_\_\_\_ TYPE/PRINT NAME, ACADEMIC RANK AND DEPT. \_\_\_\_\_ EMAIL (REQUIRED) \_\_\_\_\_  
Other committee member(s):  
2nd SIGNATURE \_\_\_\_\_ TYPE/PRINT NAME, ACADEMIC RANK AND DEPT. \_\_\_\_\_  
3rd SIGNATURE \_\_\_\_\_ TYPE/PRINT NAME, ACADEMIC RANK AND DEPT. \_\_\_\_\_

### 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.

SIGNATURE \_\_\_\_\_ TYPE/PRINT NAME AND TITLE \_\_\_\_\_ DATE \_\_\_\_\_

#### FOR OFFICE USE ONLY

ORSP-HAP determination: Approved protocol # \_\_\_\_\_ Exempt \_\_\_\_\_ Date \_\_\_\_\_ Excepted \_\_\_\_\_ Date \_\_\_\_\_

Accepted by Division of Graduate Studies \_\_\_\_\_ Date \_\_\_\_\_

# Biology 898 Thesis Paper Guidelines (page 1 of 3)

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/thesis-dissertation-guidelines>

**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/forms/thesis-dissertation-checklist.pdf>

## **Preliminary Pages**

The University requires standard pages in every thesis. They can be found here:

## **Thesis Text Pages:**

After including the mandatory Preliminary Pages, the following are the suggested sections

# Biology 898 Thesis Paper Guidelines (page 2 of 3)

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 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 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?

# Biology 898 Thesis Paper Guidelines (page 3 of 3)

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## 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.

---

## Division of Graduate Studies Thesis / Dissertation Guidelines

<https://grad.sfsu.edu/content/thesis-dissertation-guidelines>

# Culminating Experience (Biology 898 Example)

Email the graduate secretary your CE form to review. Giovanna Tuccori (gmt@sfsu.edu)  
Once reviewed the graduate secretary will upload the form to docuSign to obtain signatures.

San Francisco State University		Division of Graduate Studies ADM 254 (415)338-2234	
<b>PROPOSAL FOR CULMINATING EXPERIENCE</b> <b>898: THESIS</b> <b>THESIS RECEIPT REQUIRED UPON COMPLETION</b> Complete, print and file this form with the Division of Graduate Studies in accordance with guidelines published in the University Bulletin. <b>NO HANDWRITTEN FORMS WILL BE ACCEPTED</b>			
1. Official Degree Title as listed in the University Bulletin: Master of Science Major Cell and Molecular Biology Concentration or emphasis (if applicable)			
2. Name Jon Smith		Student ID 123456789	
Address 55 Cherry Street		Phone (415) 555-7848	
City/State/Zip San Francisco, CA 94123		Email jsmith@mail.sfsu.edu	
3. <input type="checkbox"/> Check here if this is a REVISED proposal (withdrawing previous proposal)			
4. <input checked="" type="checkbox"/> I plan to register for the 898 course in (enter term and year): Spring 2016 or <input type="checkbox"/> I previously registered for the 898			
5. 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?			
6. 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. 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.			
<b>PLAN FOR COMPLETION OF CULMINATING EXPERIENCE</b>			
LIST COMPONENTS OR SECTIONS FOR COMPLETION		DATES TO BE SUBMITTED TO FACULTY FOR REVIEW	
Advancement to Candidacy Form		10/01/2015	
Final Report		04/15/2016	
Oral Defense		05/10/2016	
I PLAN TO COMPLETE MY DEGREE IN: <input type="checkbox"/> FALL <input type="checkbox"/> SPRING <input type="checkbox"/> SUMMER YEAR			
I have reviewed the above with my committee members and agree to the terms of the projected timeline			
STUDENT SIGNATURE		DATE	

COMPLETE PAGES AND OBTAIN ALL REQUIRED SIGNATURES

Name Jon Smith		Student ID 123456789	
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 <a href="mailto:protocol@sfsu.edu">protocol@sfsu.edu</a> 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: <input type="checkbox"/> My protocol has been approved by the IRB or IACUC and I have attached the approval notice. <input type="checkbox"/> 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: <input type="checkbox"/> Application for Determination of Exemption <input type="checkbox"/> Protocol <input type="checkbox"/> 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: <input type="checkbox"/> My project is covered under an SFSU faculty member's protocol. Protocol #: (if already approved). <input type="checkbox"/> 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: <a href="https://research.sfsu.edu/content/application-determination-exemption">https://research.sfsu.edu/content/application-determination-exemption</a> 5. If you are UNSURE if your project is considered animal research, contact HAP at <a href="mailto:protocol@sfsu.edu">protocol@sfsu.edu</a> 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 exemption or approval. <b>IMPORTANT: DO NOT BEGIN YOUR RESEARCH UNTIL YOU RECEIVE NOTICE OF APPROVAL, EXEMPTION OR EXCEPTION</b>			
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 (1) during winter break <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (2) during the summer months <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
Committee Chair: SIGNATURE TYPE/PRINT NAME, ACADEMIC RANK AND DEPT. EMAIL (REQUIRED)			
Other committee member(s): 2nd SIGNATURE TYPE/PRINT NAME, ACADEMIC RANK AND DEPT.			
3rd SIGNATURE TYPE/PRINT NAME, ACADEMIC RANK AND DEPT.			
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. SIGNATURE TYPE/PRINT NAME AND TITLE DATE			
FOR OFFICE USE ONLY			
ORSP-HAP determination: Approved protocol # Exempt Date Excepted Date			
Accepted by Division of Graduate Studies Date			

Rev 03/17

# 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.

## Human & Animal Protections

Phone: (415) 338-1093

E-mail: [protocol@sfsu.edu](mailto: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:***

involve no more than minimal risk to participants (as defined by [45 CFR 46.102](#));  
not be supported by federal funds; ***and*** not be subject to federal oversight.

# Submitting an Animal Protocol

[http://research.sfsu.edu/protocol/animal\\_protocol](http://research.sfsu.edu/protocol/animal_protocol)

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](http://research.sfsu.edu/protocol/forms_anim)

## **Animal Subjects Policy Library**

[http://research.sfsu.edu/protocol/policies\\_anim](http://research.sfsu.edu/protocol/policies_anim)

## **Congratulations on defending, here is a list of things you will need to do.**

- You will agree with your committee on a date and reserve a room for your defense (contact the graduate secretary) or depending on the state of things, you will set up the a zoom session with your committee members. <https://at.sfsu.edu/zoom>
- Create and send the graduate secretary a promotional flyer for your defense and it will be email blasted to the department. (example on next page)
- On the day of your defense, fill out and return the day of defense paperwork (Report of Completion & Grade Change). Email it to the graduate secretary with the names and emails of your committee members. Docusign will be used to get signatures.
- Apply for graduation via your gateway. (NOTE: apply for graduation in the semester you plan to defend).





# Thesis Defense

## Physiological impacts of in-situ restoration methods on *Acropora cervicornis*

William Grant – M.S. Candidate

Thesis Committee:

Dr. Rebecca Albright

Dr. Emily Hall

Dr. Alejandro Velez Melendez



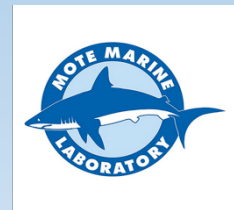
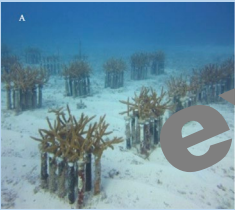
Tuesday, July 27<sup>th</sup> from 10 AM – 12 PM

Join Zoom Meeting:

<https://sfsu.zoom.us/j/6057351260?pwd=bHZWTWIUMG1RNm5wYm01ZWlRb0loUT09>

Meeting ID: 605 735 1260

Passcode: coralreefs



# Report of Completion

- About 2 weeks before your defense, the biology graduate secretary will send you the report of completion.
- On the day of your defense you will fill out this form and send it to the Biology department graduate secretary.

San Francisco State University  
Division of Graduate Studies  
ADM 254

**REPORT OF COMPLETION  
OF SPECIFIED GRADUATE PROGRAM REQUIREMENTS**

Degree Objective: Master of <u>Science</u>		Major: <u>Biology</u>
Concentration (if applicable): <u>Cell and Molecular</u>		Emphasis (if applicable): <u></u>

Name: John Smith Student ID: 123456789  
E-mail: jsmith@mail.sfsu.edu

Check as applicable:

<p><b>GRADUATE PROGRAM REQUIREMENTS</b> (requires only the signature of major advisor or graduate coordinator)</p> <p><input type="checkbox"/> Met conditions required to obtain Classified Status as specified at time of admission to program</p> <p><input type="checkbox"/> Examination for validation of outdate (if more than 12 year Extension)</p> <p><input type="checkbox"/> Foreign Language Examination (if necessary): <u></u></p> <p><input type="checkbox"/> Other (specify): <u></u></p>	<p><b>CULMINATING EXPERIENCE REQUIREMENT(S)</b> (requires signatures of all committee members as well as department chair or graduate coordinator)</p> <p><input type="checkbox"/> Supervised Field Internship (892)</p> <p><input type="checkbox"/> Creative Work Project (894)</p> <p><input checked="" type="checkbox"/> Field or Research Project (895)</p> <p><input type="checkbox"/> Seminar on Field Studies (EED 890)</p> <p><input type="checkbox"/> Comprehensive Written Examination (896 EXM)</p> <p><input type="checkbox"/> Comprehensive Oral Examination</p> <p><input checked="" type="checkbox"/> Oral Defense of Thesis (898) or Project (895)</p>
--	--

**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 April 30, 2020  
Date

☐ Failed on \_\_\_\_\_  
Date

<p>_____ Signature of Committee Chair/Advisor (as appropriate)</p> <p>_____ Signature of Committee Member</p> <p>_____ Signature of Committee Member</p> <p>_____ Signature of Department Chair or Graduate Coordinator</p>	<p>_____ Head of Committee Name PRINTED Name and academic rank</p> <p>_____ Committee Member Name PRINTED Name and academic rank</p> <p>_____ Committee Member Name PRINTED Name and academic rank</p> <p>_____ PRINTED Name</p> <p>_____ Date</p>
---	--

Accepted by Division of Graduate Studies \_\_\_\_\_ Date \_\_\_\_\_

# Grade Change

## Petition for Grade Change – Example

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



Smith, John

Last Name First Name Middle Initial

123456789

Student ID Number

### 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, SSB 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.**

Dept. & Course #: **Biology 895 or 898** Schedule #: **123456** Term/Year course taken: **Fall 2016**

Units: **4** Course Title: **BIOL 895 Research Project (Units: 4) --- or --- BIOL 898 Master's Thesis (Units: 4)**

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

Phone Number: **(415) 555-7878** E-mail: **john.smith@mail.sfsu.edu**

Student's reason for requesting a grade change:

Completed master's course work.

ACTION BY INSTRUCTOR:

Previous Grade: **RP** Date work submitted to instructor: **Jul 5, 2017**

New Grade ☐ Plus

☒ Approved ☐ Denied

☐ Minus

Reason Approved or Denied:

CR

☐ Neither

Completed Master's course work

Instructor Name: **Professor James Jones** Instructor Signature: \_\_\_\_\_ Date: \_\_\_\_\_

ACTION BY DEPARTMENT CHAIR:

☒ Approved ☐ Denied

Reason Approved or Denied:

Completed Master's course work

Dept. Chair Name: **Michael Goldman** Dept. Chair Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Registrar's Office Use Only

New Grade

Previous Grade

Date Recorded MMDDYY

IF GRADE CHANGE REQUEST ALSO INCLUDES A GRADING OPTION CHANGE  
PLEASE REFER TO THE [WAIVER OF COLLEGE REGULATIONS PETITION](#)

Reset Form

Print Form

## **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.

## Continuous Enrollment for Culminating Experience (page 2 of 2)

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:

<http://bulletin.sfsu.edu>

### To register for your CEL 499 Course:

Use this link, <http://www.cel.sfsu.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.

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.

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


To apply for graduation follow the instructions found at the SFSU Graduate Division Website:

## Steps to Graduation

- <https://grad.sfsu.edu/content/continuing-students>

Steps to Graduation

Apply Request Information



Steps to Graduation >

- Continuing Student Deadlines
- Continuous Enrollment Policy
- Graduate Writing Support
- Academic Probation
- Thesis/Dissertation
- Apply to Graduate
- Pay Graduate Fees Online
- Frequently Asked Questions
- Contact Grad Program Specialists

1. KNOW YOUR DEADLINES
2. SUBMIT YOUR ADVANCEMENT TO CANDIDACY (ATC) FORM
3. SUBMIT YOUR PROPOSAL FOR CULMINATING EXPERIENCE (PCE) FORM
4. COMPLETING A THESIS / DISSERTATION / WRITTEN CREATIVE WORK?
5. APPLY FOR GRADUATION
6. HAVE YOUR COMMITTEE APPROVE YOUR REPORT OF COMPLETION
7. CULMINATING EXPERIENCE CONTINUOUS ENROLLMENT POLICY
8. TOP FIVE REASONS FOR DENIAL OF GRADUATION

# Biology Department FAQs (page 1 of 2)

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## **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?**

Go to the Biology Stockroom, Hensill Hall 539 to inquire about getting 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 19<sup>th</sup> 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?**

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.

The Biology Department website: <http://biology.sfsu.edu>  
You'll find links to our weekly seminar series and news items.

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.



## Biology Department FAQs (page 2 of 2)

### 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.

### 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](mailto:chud@sfsu.edu)) or the Department Chair, Laura Burrus ([lburrus@sfsu.edu](mailto: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://vpsaem.sfsu.edu/content/student-concerns-and-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/](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>



# **Manage Your Degree & Career**

# Individual Development Plan (IDP)

**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.

Basic Steps	For Graduate Students	For Mentors
Step 1	Conduct self-assessment.	
Step 2	Write an IDP. Share IDP with mentor and revise.	Review IDP and help revise.
Step 3	Implement the plan. Revise IDP as needed.	Establish regular progress review.
Step 4	Survey opportunities with mentor.	Discuss opportunities with student.

# Implementing Individual Development Plans (page 1 of 3)

## 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.

## Ten Tips for a Successful Mentor/Mentee Relationship

A successful mentor/mentee relationship should be fulfilling and beneficial for all involved. Utilize these ten tips for a more effective and productive relationship:

### **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.

### **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.

### **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.

### **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.

### **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.

### **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.

### **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.

### **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.

### **Be reliable and consistent.**

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

### **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.

# Individual Development Plan Form (page 1 of 7)

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.

Student Name:
Student Signature:
Advisor’s Name:
Advisor’s Signature:

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

1. Please explain your career aspirations.	
Long-term goals:	
Short-term goals:	
2. What is your target date for graduation?	

# Individual Development Plan Form (page 2 of 7)

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.

Semester and Year	Course Number	Course Title	Units	Completed/In Progress/To Do

# Individual Development Plan Form (page 3 of 7)

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.

Your UG Major	
Your GPA	
GRE/MCAT Scores	
Other Test Scores	
Prior Research Experience	

	Training Program 1	Training Program 2	Training Program 3
Institution Name			
Program			
Test Requirements			
Other Requirements			



## Individual Development Plan Form (page 4 of 7)

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):

# Individual Development Plan Form (page 5 of 7)

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.

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

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*

Checkpoint (Month, Year)	Milestone

# Individual Development Plan Form (page 6 of 7)

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*

Meeting Date(s)/Frequency	Meeting Purpose/Target/Goal

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?

# Individual Development Plan Form (page 7 of 7)

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.

Times	Monday	Tuesday	Wednesday	Thursday	Friday	Weekend

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

- Science Careers: an on-line IDP building guide: <http://myidp.sciencecareers.org/>
- SACNAS Building Your Individual Development Plan (IDP): A Guide for Undergraduate: <http://sacnas.org/about/stories/sacnas-news/summer-2013/building-your-IDP>
- SACNAS IDP worksheets: <https://docs.google.com/file/d/0B6jsUuSJqdDackxTMVp5eks2X2M/edit?pli=1>

## Resources

- Fiske, P. S. (2001). Put Your Science to Work: The Take-Charge Career Guide for Scientists. Washington, D.C.: American Geophysical Union.
- Bolles, R. N. (2002). What Color is your Parachute? A Practical Manual for Job-Hunters and Career-Changers. Berkeley, Calif.: Ten Speed Press.
- Heiberger and Vick, eds. (1996). The Academic Job Search Handbook (2nd ed.). University of Pennsylvania Press.
- Reis, R. M. (1997) Tomorrow's Professor. Preparing for Academic Careers in Science and Engineering. New York: IEEE Press. 1997.
- Barker, K. (2002). At the Helm: A Laboratory Navigator. Cold Spring Harbor, NY: Cold Spring Harbor Laboratory Press.
- Robbins-Roth, C. ed. (1998). Alternative Careers in Science. Leaving the Ivory Tower. San Diego, Calif.: Academic Press.
- Kreeger, K. Y. (1999). Guide to Nontraditional Careers in Science. London: Taylor & Francis Group.
- Pfund, C., Pribbenow, C., Branchaw, J., Miller Lauffer, S., and Handelsman, J. (2006). The merits of training mentors, *Science* (311: 473-474).
- Handelsman, J., Pfund, C., Miller Lauffer, S., and Pribbenow, C. (2005). Entering mentoring: A seminar to train a new generation of scientists. The Wisconsin Program for Scientific Teaching, University of Wisconsin.

## Academic Career Opportunities

- American Association for the Advancement of Science  
<http://sciencecareers.sciencemag.org/>
- The Chronicle of Higher Education: <http://chronicle.com/jobs/>
- Federation of American Societies for Experimental Biology  
<http://careers.faseb.org/jobseeker/search/results/>
- On-line Listserv: Tomorrow's Professor: <https://tomprof.stanford.edu/>

## A Shared Vision of Mentoring from Different Perspectives



Christopher M. Hines



Angela Wandinger-Ness



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 (Himes) 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<sup>1</sup> and the Medical College of Wisconsin,<sup>2</sup> for postdoctoral fellows by the Federation of American Societies for Experimental Biology,<sup>3</sup> and for junior faculty by the University of California, San Francisco, Division of General Internal Medicine<sup>4</sup>).

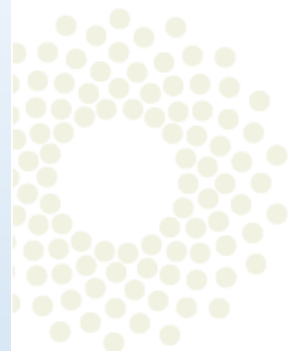
For mentors, such a process is a great way to attend to the individuality of trainees and their specific needs and goals. For mentees it enables the articulation of specific priorities the achievement of which is measurable and visible. Developing an honest, mutually agreed to plan is central to achieving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

**Frequent evaluation of progress toward goals through self-assessment and mentor feedback helps ensure that individual needs are met.**

# WOMEN in Cell Biology/ MINORITIES Affairs

[A Shared Vision of Mentoring from Different Perspectives \(page 2 of 3\)](#)



“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 resented 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

**[R]etaining 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.**

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 uni-directional progression. This perspective on mentoring excludes the idea of reciprocity between mentee and mentor 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



# WOMEN in Cell Biology/ MINORITIES Affairs

A Shared Vision of Mentoring from Different Perspectives (page 3 of 3)

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 Wandering-Ness, University of New Mexico

## Notes

<sup>1</sup> [www.grad.umn.edu/career/IDPgrad.pdf](http://www.grad.umn.edu/career/IDPgrad.pdf).

<sup>2</sup> [www.mcw.edu/VirtualCareerCenter/IndividualDevelopmentPlan.htm](http://www.mcw.edu/VirtualCareerCenter/IndividualDevelopmentPlan.htm).

<sup>3</sup> [www.faseb.org/portals/0/pdfs/opa/idp.pdf](http://www.faseb.org/portals/0/pdfs/opa/idp.pdf).

<sup>4</sup> <http://dgim.ucsf.edu/facultydevelopment>; see "Individual Development Plan Form."

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

Christopher M. Himes has the perspective of a mentee 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 Wandering-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 longstanding PI of a federally funded research program and director of a training program with a focus on increasing diversity in science, she has advised, 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 mousing over links
- An expandable reading frame for HTML versions of articles
- RSS feeds

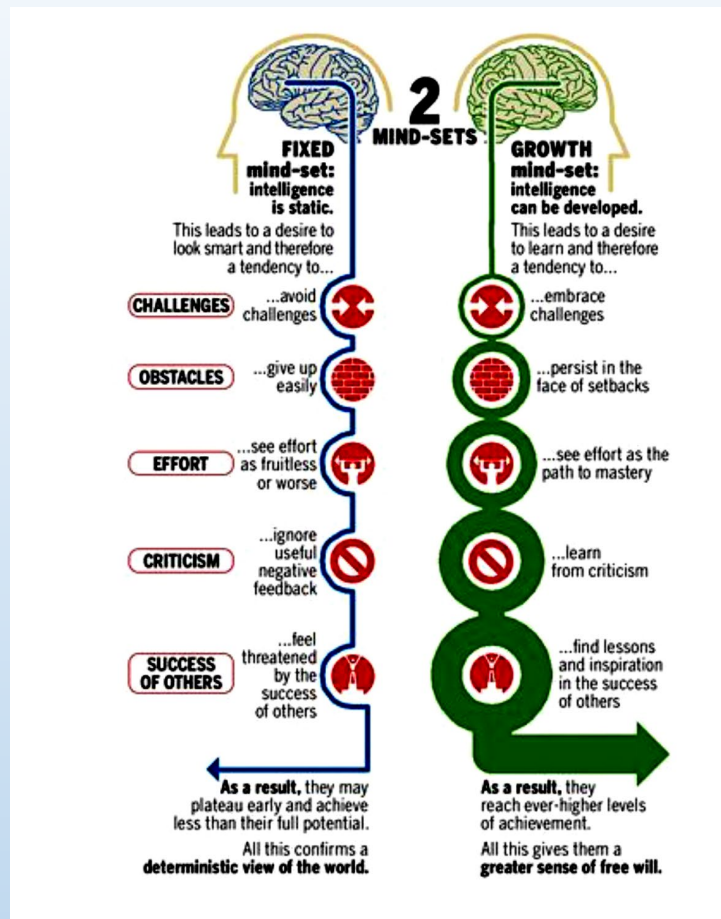
More enhancements are coming soon. Check out the redesigned websites: [www.molbiolcell.org](http://www.molbiolcell.org) and [www.lifescied.org](http://www.lifescied.org). ■

—W. Mark Leader





# SF State Biology Mindset is the Growth Mindset



Rule focus	Fixed Mindset	Growth Mindset
<b>Learning</b>	<i><b>Look smart at all costs</b></i> - Students, when given a choice between a challenging task and a familiar task, opted for the latter.	<b>LEARN</b> - students believed they were able to learn.
<b>Challenges</b>	<i><b>Don't make mistakes</b></i> - Mistakes were viewed as a lack of ability with the reasoning that if they had the intelligence they would do well the first time.	<b>Take on challenges</b> - Students were motivated to take on challenges as they knew they would learn from these.
<b>Effort</b>	<i><b>Don't work hard</b></i> - Students believed that the need for hard work suggested that they had low intelligence - linking to rule 2.	<b>Work hard</b> - Students believed that effort enhanced ability.
<b>Responding to mistakes</b>	<b>If you make mistakes don't try to repair them</b> - When students did badly in a test, most were less likely to study for the next one and some would consider cheating.	<b>Confront deficiencies and correct them</b> - Students were eager to use their setbacks as a learning experience and continue to try to improve.

# What Is Impostor Syndrome? (page 1 of 4)

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."

## What Is Impostor Syndrome? (page 2 of 4)

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.

# What Is Impostor Syndrome? (page 3 of 4)

## **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.

## What Is Impostor Syndrome? (page 4 of 4)

### **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 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."

# Funding

# FAQ about Graduate Teaching Assistant Positions (page 1 of 3)

## **What are the costs for tuition for graduate students?**

Find university fees here: <http://bulletin.sfsu.edu/fees-financial-aid/fees-expenses/#text>

## **What are my options for funding as a graduate student?**

### ***Graduate Teaching Assistantships (GTA)***

We offer all incoming students the opportunity to serve as GTAs for selected Biology courses. The courses assigned depend on the student's prior teaching and educational experiences, concentration, and academic record. Depending on the courses, the GTAs can earn (2018/2019 academic year current rates):

- 1-unit lab course: \$2727/semester
- 1-unit lab course + 1 unit discussion/lecture: \$4090/semester
- 2-unit lab course or 2x 1 unit lab courses: \$5,454/semester

GTAs usually teach 2 x 1-unit courses or 1 x 2-unit lab course, or can opt for the 1-unit lab + 1-unit discussion option.

### ***Graduate Assistant (GA)***

Some biology courses need graders/assistants. Depending on the course, the following GA-ships can be assigned with approval of the faculty teaching that course (2018/2019 academic year current rates).

- 5 hours/week: \$1520/semester
- 10 hours/week: \$3041/semester
- 15 hours/week: \$4561/semester

### ***Graduate Fellowships***

The Student Enrichment Office (SEO) administers several programs that awards fellowships to students. <https://seo.sfsu.edu/>

### ***Research Assistantships***

Our SFSU faculty members conduct research funded by many external programs, including the NIH and NSF. Please ask the faculty members you are considering as mentors if they have funds available from their grants to support your work.

# FAQ about Graduate Teaching Assistant Positions (page 2 of 3)

## **What are the classes like that I would GTA?**

You can check the SFSU schedule to see when classes generally meet each semester.

<https://webapps.sfsu.edu/public/classservices/classsearch>

### **BIOL 101 Human Biology Laboratory (1 unit lab)**

Intended for non-biology majors. Laboratory exercises demonstrating scientific processes, including the scientific method, analysis of data, and drawing appropriate conclusions. Body structure and function, reproduction, development, heredity, and evolution.

Time: Each lab meets 1x for 3 hours each week. 1 hour mandatory GTA meetings are held weekly.

Requirements: General biology knowledge is sufficient. GTAs are given a detailed instructor's manual which helps supplement knowledge about human health and provides tips for orchestrating the lab activities. GTAs facilitate cooperative learning and group work and foster independent thinking by the students.

### **BIOL 150 The World of Plants Lab (1 unit lab)**

Intended for non-biology majors. World of plants, their place in nature, and the relation to humans. Growing plants, field observations, and studies of the economic uses of plants.

Time: Each lab meets 1x for 3 hours each week. 1 hour mandatory GTA meetings are held weekly.

Requirements: General biology knowledge, background in plants/plant biology is preferred.

### **BIOL 213 Principles of Human Physiology Laboratory (1 unit lab)**

Intended for non-biology majors. Laboratory exercises in mammalian physiology.

Time: Each lab meets 1x for 3 hours each week. 1 hour mandatory GTA meetings are held weekly.

Requirements: General biology knowledge, background in physiology is preferred. GTAs are given a detailed instructor's manual that provides tips for orchestrating the lab activities. GTAs facilitate cooperative learning and group work and foster independent thinking by the students.

### **BIOL 230 Introductory Biology I (2 unit lab)**

Intended for biology majors. Fundamentals of biology: chemical basis of life, cell structure, bioenergetics, plant and animal physiology, and genetics.

Time: Each lab meets 2x for 3 hours each week. 1 hour TA meetings are held weekly.

Requirements: General biology knowledge is sufficient. GTAs are given a detailed instructor's manual for orchestrating the lab activities. GTAs facilitate cooperative learning and group work and foster independent thinking by the students.



# FAQ about Graduate Teaching Assistant Positions (page 1 of 3)

## **BIOL 240 Introductory Biology II (1 unit lab +1 unit discussion)**

Intended for biology majors. Fundamentals of biology: gene expression, development, evolution, ecology, and the diversity of microbes, plants, and animals

Time: Each lab meets twice a week for 2 hours each (First 30 minutes is the 1 unit discussion portion and next 1.5 hours is the 1 unit lab portion – same room.) Mandatory TA meetings are held weekly.

Requirements: Ecology, evolution and systematics knowledge preferred. Basic background in animal and plant form and function also helpful. GTAs facilitate cooperative learning and group work and foster independent thinking by the students.

## **BIOL 313 Principles of Ecology (1 unit lab)**

Intended for non-majors. Ecological principles and methods. Introduction to population, community, and ecosystem ecology. Trips to various habitats.

Time: Each lab meets 1x for 3 hours each week. 1 hour TA meetings are held weekly.

Requirements: General biology knowledge. Some experience in ecology is preferred.

## **BIOL 328 Human Anatomy (1 unit lab)**

Restricted to sophomore or above standing with a major in biology, biochemistry, chemistry, clinical science, kinesiology. Gross structures of the human body.

Time: Each lab meets 1x for 3 hours each week. 1 hour TA meetings are held weekly.

Requirements: Prior coursework in human anatomy is preferred. This is a cadaver based lab.

## **BIOL 482 Ecology (1 unit lab)**

Intended for biology majors. Interrelationships between organisms and their environment, studied at the individual, population, community, and ecosystem levels. Field trips to various environments.

Time: Each lab meets 1x for 3 hours each week. 1 hour TA meetings are held weekly.

Requirements: Experience in ecology is preferred.

# Biology Graduate Scholarships

## Arthur Nelson Scholarship

### **Criteria:**

1. Student must be currently enrolled full-time in one of the Biology Master's degree programs in Fall of 2021 (awards will be announced end of Spring 2021 and disbursed in Fall 2021). (Master's candidates who are working on their theses or final projects need only to be enrolled for a minimum of 6 units).
2. Applications will be evaluated according to academic merit, ability to communicate research, and impact of scholarship.

### **Requirements:**

1. A completed application form (available online in mid-February at [Academic Works](#) and search for "Nelson Scholarship").
2. Unofficial, current transcripts for all previous and current graduate and undergraduate work.
3. An essay of less than 1000 words covering the following topics: (a) description of your research and how it relates to conservation biology for a broad audience; (b) your professional goals; and (c) the impact of the scholarship would have on your life.
4. Recommendation from your primary research mentor / SFSU academic advisor. The recommendation should detail the faculty member's familiarity with the student, the value of the student's proposed research, and the student's ability to successfully conduct and complete the proposed project.
5. A second recommendation letter from a faculty member or a supervisor.

## William N. Bigler Scholarship

### **Criteria:**

1. Students must be currently enrolled minimum half-time in the Biomedical Science Master's Program (College of Science and Engineering) or the Clinical Laboratory Science Internship Program (College of Health and Social Sciences).
2. Applications will be evaluated according to excellence of educational development in clinical laboratory science or graduate training in biomedical sciences (biotechnology and stem cell science).

### **Requirements:**

1. A completed application form (available online in mid-February at [Academic Works](#) and search for "William N. Bigler").
2. Unofficial SFSU transcript.
3. An essay of less than 1000 words covering the following topics: (a) your professional goals; (b) a brief statement describing any financial needs; (c) the impact the scholarship would have on your life.
4. Recommendation/nomination from your SFSU program director or academic advisor.



## Scholarships for Undergraduate and Graduate Students

### **ARCS Scholarships (\$10,000)**

Awarded to eight graduate students in the Departments of Biology, Chemistry & Biochemistry, Computer Science, Earth & Climate Sciences, Mathematics, Physics & Astronomy

### **Robert W. Maxwell Memorial Scholarships (\$4,000)**

Awarded to three to five graduate students in the College of Science & Engineering

### **College of Science & Engineering Advisory Board Scholarship (\$2,500)**

Awarded to one graduate student in the College of Science & Engineering

### **Bruce A. Rosenblatt Community Service Scholarships (\$1,250)**

Awarded to four undergraduate or graduate students in the College of Science & Engineering with 100 hours of Community Service

### **James C. Kelley Scholarship (\$1,000)**

Awarded to one undergraduate or graduate student in the College of Science & Engineering with career orientation and/or interests in the field of Marine or Environmental science

### **David & Cary Cassa Memorial Scholarships (\$1,000)**

Awarded to two College of Science & Engineering undergraduate students who live in San Francisco

### **Kenneth Fong Biology Scholarship (\$1,250)**

Awarded to one undergraduate student in the Department of Biology

### **C.Y. Chow Memorial Scholarships (\$1,000)**

Awarded to two undergraduate students in the Department of Computer Science or Mathematics

### **Pamela Fong Mathematics Scholarship (\$1,250)**

Awarded to one undergraduate student in the Department of Mathematics

# SEO Student Enrichment Office

The SEO programs are designed to prepare students from underrepresented groups including those with disabilities for advanced biomedical degrees by providing financial support, academic support and stimulating research experiences.

## Graduate Fellowships

The deadline for our 2022-23 applications has past. After the application deadline is over and throughout the year, you can complete an [Applicant Profile](#). If you submit a profile, we will let you know if any new scholarships or fellowships open outside of our regular spring application deadline.

## Student Enrichment Opportunities (SEO) Office

<https://seo.sfsu.edu/>



**Would you like to...**

Experience  
research opportunities?



Receive funding for  
your research?



And join a community of  
like minded scholars?



**Complete an application for our  
fellowships!**



Scan this code  
for more  
info on our office!



# **Wellness & Community**

# Student Wellness Resources (page 1 of 3)

## Basic Needs

Food+Shelter+Success is SF State's Basic Needs Initiative. Basic needs are the essentials that every student needs to survive and thrive. Food+Shelter+Success supports students and their ability to be engaged learners who reach their full potential by helping students access quality food, secure housing and economic resources. Food+Shelter+Success stands in solidarity with everyone fighting for equality. Equitable access to housing, food, medical care, and education are critical, undeniable, and foundational elements of racial and social justice.

## Black Unity Center

The mission of the Center is to provide Black students, through cross-campus community collaborations and an intersectional, African-centered environment, with transformative, impactful and socially conscious programs that allow them to grow academically, interpersonally, culturally and professionally, in order to advance their recruitment, matriculation, retention and graduation.

Email: [blackunitycenter@sfsu.edu](mailto:blackunitycenter@sfsu.edu)

## Book Loan

The AS Project Connect Book Loan Program is dedicated to support the student community at SF State through our library of 2,000+ textbooks. Students may apply for textbooks listed in our Current Inventory List or apply for new titles. We have allocated funding and may be able to purchase new books but are limited to the number of purchases we can make. All qualified applications are processed on a first-come-first-served basis. Students are limited to borrow up to 2 books per semester. Please note that it may take up to 2-3 business days to process your online Book Loan Application.

## Counseling & Psychological Services

The mission of Counseling & Psychological Services (CAPS) is to enhance the psychological well-being of the entire campus community and thereby facilitate the retention and successful educational experience of students, faculty, and staff.

Email: [caps@sfsu.edu](mailto:caps@sfsu.edu)



## Student Wellness Resources (page 2 of 3)

### Gator Groceries

Gator Groceries is a direct response to the need among the SFSU student population for more resources to fight food insecurity – the lack of access to nutritious food. With rising tuition and fees, textbook costs, and living expenses, more and more students are having to choose between essentials; such as food, education, and living costs. We understand that food insecurity is NOT a choice and that access to a variety of nutritious food is a human right. Thus, we strive to provide programming that promotes awareness about food insecurity and supports food-insecure students in accessing nutritious food so that they may successfully complete and obtain their degrees without the negative health impacts of prolonged food-insecurity.

### Health Promotion & Wellness

Health Promotion & Wellness is a unit within Student Affairs & Enrollment Management that provides health education and actively promotes a culture of wellness. We create opportunities for students to enact healthy behaviors through advocacy, campaigns, programming, events, workshops, and peer health leadership programs. Our focus areas include alcohol, tobacco and other drugs, basic needs, men's health, mental health, nutrition, sexual health, and sexual violence prevention. We work to achieve health equity and enhance academic, personal, and professional success for all members of the campus community.

Email: [hpw@sfsu.edu](mailto:hpw@sfsu.edu)

### HOPE Crisis Fund

At SF State, students may find unexpected life events or a circumstance that occurs in an unforeseen manner (and out of control of the student). To help students manage these types of crises, SF State has established the SF State HOPE Crisis Fund (HOPE = Help, Opportunity & Pathway to Empowerment), a fund that assists students with financial help when they need it most to keep them on track to graduation. Students who receive assistance from the HOPE Crisis Fund realize that they're not alone, that someone cares.





# Student Wellness Resources (page 3 of 3)

## The SAFE Place

The SAFE Place is a survivor-focused, trauma-informed program that provides FREE and CONFIDENTIAL support services to survivors of sexual assault, intimate partner violence, stalking, and sexual harassment (sexual violence) while working with campus partners to end sexual violence. We serve all members of the SFSU community including students, staff, and faculty. The SAFE Place recognizes that sexual violence impacts all people, regardless of race, ethnicity, age, gender, or sexual orientation and strives to foster a safe and welcoming environment. We are committed to addressing sexual violence within the social justice, anti-oppression framework. The SAFE Place helps survivors determine their own healing path by reviewing options for reporting, medical care, mental health care, alternative healing interventions, and empowering survivors to choose the path that feels right for them.

## The Safe Zone

The Safe Zone Ally program is a voluntary program of trained students, faculty, staff, and administrators. A person displaying the program symbol has completed an educational training to develop a greater awareness of issues affecting students of all genders and sexual identities. Safe Zone trainings and on-going learning opportunities are presented through an intersectional, racial justice framework to encourage participants to engage in conversations about the impacts of heterosexism, homophobia, transphobia, and racism. Those who are trained have agreed to be active, visible, and supportive allies. Any individual seeking help can talk to a Safe Zone ally in a confidential and supportive environment.

## Student Health Services

Student Health provides confidential basic health services as well as primary care, psychiatry, pharmacy, laboratory, and x-ray. We encourage health awareness and educate about preventive care, disease management and treatment choices. Our goal during each visit is that you and SHS medical staff work together to make decisions to promote your health and well-being, now and into the future. We partner with students and the campus to foster academic, personal, and professional wellness for the campus community in support of health equity.





# Equity and Community Inclusion (page 1 of 2)

## **Bias Incident Education Team (BIET)**

The Bias Incident Education Team reviews and addresses bias-related incidents and reports that deserve attention, but may not necessarily rise to the level of [Title IX / DHR](#) (Discrimination, Harassment, Retaliation) or [Labor / Employee Relations / HR](#) (Human Resources). The BIET reviews incidents and determines an action plan rooted in individual and group education and learning. The BIET accepts reports from SF State students, staff, faculty, administrators, and guests. The BIET provides an outlet for people to share, document, and make known bias-related incidents they observe or experience. Ultimately, the BIET is one element of the collaborative processes at SF State to address and improve campus climate issues.

### ***What is a bias incident?***

Something a person does, says, or expresses that is motivated by bias related to one or more identities, such as citizenship, disability, ethnicity, gender, national origin, race, sexual orientation, or more. While a bias incident may constitute protected expression, the incident may also promote mental stress, harm, or violence that can leave recipient(s) or observer(s) feeling unsafe, unwelcomed, and unincluded in the SF State community.

### ***Why report bias incidents?***

Reporting bias incidents helps us collect data about experiences that contribute negatively to the SF State campus climate. Reporting bias incidents helps foster a culture of accountability. Reporting bias incidents helps the BIET address incidents and provide educational action plans for the individuals, groups, or departments connected to bias-related incident. Reporting helps SF State understand where and how people experience bias on campus. Ultimately, reporting helps SF State become a more welcoming and inclusive campus.

If you witness or are made aware of bias-related incidents, we encourage you to [SUBMIT A REPORT](#) (click to open in new window). If you are uncomfortable submitting a bias incident report, ask a trusted colleague or friend to do it for you. You are also welcome to reach out to the [chair/convener of the BIET, Frederick Smith](#), or any member of the BIET (listed on the website).

## Equity and Community Inclusion (page 2 of 2)

### Title IX

San Francisco State University is committed to maintaining an inclusive community that values diversity and fosters tolerance and mutual respect. We embrace and encourage our community differences in Age, Disability (physical and mental), Gender (or sex), Gender Identity (including transgender), Gender Expression, Genetic Information, Marital Status, Medical Condition, Nationality, Race or Ethnicity (including color or ancestry), Religion (or Religious Creed), Sexual Orientation, and Veteran or Military Status, and other characteristics that make our community unique. All individuals have the right to participate fully in university programs and activities free from Discrimination, Harassment, and Retaliation.

San Francisco State University prohibits Harassment of any kind, including Sexual Harassment, as well as Sexual Misconduct, Dating and Domestic Violence, and Stalking. Such misconduct violates University policy and may also violate state or federal law.

All sexual activity between members of the university community must be based on Affirmative consent. Engaging in any sexual activity without first obtaining Affirmative Consent to the specific sexual activity is Sexual Misconduct and constitutes a violation of this policy, whether or not the sexual activity violates any civil or criminal law.

If you feel that you have experienced:

Sexual Misconduct

Dating or Domestic Violence

Stalking

Discrimination

Harassment, including Sexual Harassment and/or

Retaliation

You can [report your experience here](https://titleix.sfsu.edu/content/reporting) (<https://titleix.sfsu.edu/content/reporting>).

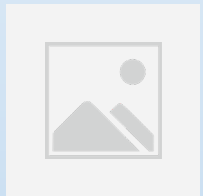
The University has designated a Title IX Coordinator who is responsible for ensuring the University's compliance with Title IX including oversight of investigations into complaints.

# Student Clubs



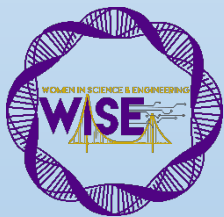
**BE-STEM: Black Excellence in STEM** is a student org at San Francisco State University focused on empowering Black students in higher education

[Facebook](#) - [Twitter](#) - [Instagram](#)



**SACNAS: Society for the Advancement of Chicanos/Hispanics and Native Americans In Science**

[SACNAS: SFSU Chapter Facebook](#)



**WISE: Women in Science & Engineering**  
WISE facilitates persona & professional development and provides a space to build community.

[Instagram](#)  
[@sfsuwise](#)



Email: [sfsuwise@gmail.com](mailto:sfsuwise@gmail.com)

More clubs can be found on our website, Facebook page and in our weekly E-news letter.