

**UNIVERSITY OF SAN FRANCISCO
BIOLOGY DEPARTMENT**

MASTER OF SCIENCE IN BIOLOGY



PROGRAM HANDBOOK

2013-2014

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USF BIOLOGY DEPARTMENT GRADUATE PROGRAM HANDBOOK

2013-2014

Welcome to the Program: The Master's program in the Biology Department is a two-year, research-intensive program in which students undertake an active research project that culminates in a formal written thesis. A student who successfully completes the program will be well prepared to enter into a technical position in a related research or industrial laboratory or to continue further postgraduate work (e.g., Ph.D. or M.D.). All Master's students must be paired with a Professor that will guide them in their research efforts while at USF.

Program Goals:

- 1) Demonstrate an advanced knowledge in the areas of biology relevant to selected research interests and effectively identify research questions on a contemporary issue within the area, (as well as) critically analyze the relevant literature.
- 2) Engage in original, independent research activities within the specified research area with guidance from graduate committee members: Cancer Biology, Conservation Genetics, Developmental Biology, Immunology, Microbiology, Photobiology, Physiology, Plant Ecology, and Virology.
- 3) Demonstrate an ability to apply knowledge through critical thinking, inquiry, analysis, and communication in the form of a Master's thesis which includes a rationale for the research project, a comprehensive review of prior research; describes the research design; materials and methods used in the research; the findings in the described research; a summary of the findings with conclusions, implications for further research and the impact and significance of the research completed.
- 4) Present and discuss orally the justification for the research, hypothesis tested, materials and methods used, findings with conclusions and implications for further research; as well as the relevance of the research to the general field of interest in a public format.

Learning Outcomes & Assessment

Learning Outcomes	Assessment
<p>A) Recognize and discuss current scientific research in the specified field of biology.</p> <p>B) Describe, synthesize and apply concepts & techniques in the current literature within a specific research area.</p> <p>C) Ask scientific questions based upon the literature and construct research hypotheses and design experiments to test hypotheses.</p>	<p>Seminar (BIOL 600)</p> <p>Interaction with Faculty</p> <p>Directed Reading (BIOL 695)</p> <p>Thesis proposal</p>
<p>Teach an undergraduate lab section in the Biology department for at least one semester.</p>	<p>Teaching Evaluation; Supervisor Evaluation</p>
<p>A) Select and meet with graduate committee members.</p> <p>B) Conduct original research, demonstrating research skills within the specified research area and evaluate collected data.</p> <p>C) Participate in disciplinary conferences.</p>	<p>Research performance – progress report</p> <p>Directed Research (BIOL 698)</p> <p>Committee members assessment</p>
<p>A) Prepare a written thesis to be reviewed and accepted by the graduate committee. The thesis will consist of the following sections: Introduction, Materials and Methods, Results, Discussion and References.</p> <p>B) Determine suitability of thesis work for publication in a peer reviewed scholarly journal.</p>	<p>Thesis Writing (BIOL 699)</p> <p>Thesis Outline</p> <p>Thesis</p> <p>Committee members assessment</p>

BIOLOGY GRADUATE PROGRAM PERFORMANCE RUBRIC

OUTCOME	Unacceptable	Needs Improvement	Satisfactory	Good Achievement	Excellent Achievement
<p>A) Recognize and discuss current scientific research in the specified field of biology.</p> <p>B) Describe, synthesize and apply concepts & techniques in the current literature within a specific research area.</p> <p>C) Ask scientific questions based upon the literature and construct research hypotheses and design experiments to test hypotheses.</p>	<p>Seminar series review write-ups incomplete, or unsatisfactory.</p> <p>Research proposal incomplete; objectives not stated; research design not discernible from text or not scientifically testable.</p>	<p>Seminar series review write-ups poorly written.</p> <p>Research proposal submitted with substantial revisions needed. Limited level of background information provided, objectives unclear.</p>	<p>Seminar series review write-ups satisfactory.</p> <p>Research proposal submitted, objectives stated and supported by current literature, research project is justifiable with a testable hypothesis and a proper research design.</p>	<p>Seminar series review write-ups well written.</p> <p>Research proposal submitted within the first year with clearly stated objectives that are highly supported by current literature. Hypothesis is relevant and a well-developed research design is discussed.</p>	<p>Seminar series review write-ups well written in an in-depth manner.</p> <p>Research proposal submitted within the first year with clearly stated objectives; hypothesis highly supported by current literature. Research design is well defined and provides novel test(s) of problem(s). Proposal puts forth relevant scientific questions that are highly significant to the field.</p>
<p>Teach an undergraduate lab section Biology department for least one semester.</p>	<p>Teaching assistantship not completed. Unsatisfactory teaching evaluations by students and supervisor.</p>	<p>Sub-standard teaching evaluations by students; supervisor reports that the instructor needs improvement.</p>	<p>Satisfactory teaching evaluations and report from supervisor.</p>	<p>Above average teaching evaluations; supervisor notes above average teaching ability.</p>	<p>Excellent teaching evaluations; highest remarks from supervisor regarding teaching ability.</p>
<p>A) Select and meet with graduate committee members.</p> <p>B) Conduct original research, demonstrating research skills within the specified research area and evaluate collected data.</p> <p>C) Participate in disciplinary conferences.</p>	<p>Graduate committee not formed. Unsatisfactory progress reports regarding lab/research performance. No participation in disciplinary conferences.</p>	<p>Graduate committee formed, but not met with regularly. Attempts at research made, but unable to successfully utilize standard methods. Poor progress reports regarding lab/research performance received. No data generated. Limited participation in disciplinary conferences.</p>	<p>Graduate committee formed, meeting held to discuss research design. Research conducted with moderate supervision, student receives satisfactory progress reports regarding lab/research performance. Minimal data generated and analyzed. Participation in disciplinary conferences (poster or oral presentation) resulting in satisfactory product.</p>	<p>Graduate committee formed, regular meetings held to discuss research design. Research conducted independently, standard methods mastered and student receives good progress reports regarding lab/research performance. Data generated and analyzed. Participation in disciplinary conferences (poster or oral presentation) resulting in recognition from attendees.</p>	<p>Graduate committee formed, regular meetings held to discuss research design. Research conducted independently, methods mastered and novel approaches utilized. Student receives excellent progress reports regarding lab/research performance. High degree of data generated and quantitative methods are elegantly used to clearly describe results and analyzed, supporting the research hypotheses. Participation in disciplinary conferences (poster or oral presentation) resulting in official recognition [award/honor] from professional organization for participation.</p>

OUTCOME	Unacceptable	Needs Improvement	Satisfactory	Good Achievement	Excellent Achievement
<p>A) Prepare a thesis outline and a written thesis to be reviewed and accepted by graduate committee members. The thesis will consist of the following sections: Introduction, Materials and Methods, Results, Discussion and References.</p> <p>B) Determine suitability of thesis work for publication in a peer reviewed scholarly journal.</p>	<p>Thesis outline not submitted to graduate committee, no meeting with committee members to discuss progress. Thesis incomplete with one or more sections not complete; does not follow standard formatting. No discussion with Advisor regarding publication.</p>	<p>Thesis outline submitted to graduate committee. Preliminary draft and final draft submitted to graduate committee not submitted in a timely fashion. Minimal meetings to discuss thesis progress with graduate committee not held. Thesis complete including a review of prior research; describes the research design; materials and methods used in the research; the findings in the described research; a summary of the findings with conclusions; however part or all is found to be unacceptable by one or more committee members. Major revisions needed. Limited discussion with Advisor regarding publication potential.</p>	<p>Thesis outline submitted to graduate committee. Preliminary draft and final draft submitted to graduate committee submitted in a timely fashion. Regular meetings to discuss thesis progress with graduate committee held. Thesis complete, including a comprehensive review of prior research; describes the research design; materials and methods used in the research; the findings in the described research; a summary of the findings with conclusions, implications for further research and significance of research. Moderate revisions needed as recommended by committee members. Final thesis approved by Graduate Director. Discussion with Advisor regarding publication potential resulting in choice for submission and preparation of manuscript.</p>	<p>Thesis outline submitted to graduate committee. Preliminary draft and final draft submitted to graduate committee submitted in a timely fashion. Regular meetings to discuss thesis progress with graduate committee held. Thesis complete including a comprehensive review of prior research; describes the research design; materials and methods used in the research; the findings in the described research; a summary of the findings with conclusions, implications for further research and significance of research. Thesis well written, error free and minimal revisions needed. All committee members highly satisfied. Final thesis approved by Graduate Director. Discussion with Advisor regarding publication potential resulting in choice for submission and preparation and submission of manuscript.</p>	<p>Thesis outline submitted to graduate committee. Preliminary draft and final draft submitted to graduate committee submitted in a timely fashion. Regular meetings to discuss thesis progress with graduate committee held. Thesis complete including a highly comprehensive review of prior research; describes the research design; materials and methods used in the research; the findings in the described research; a summary of the findings with conclusions and implications for further research. Significance of findings clearly stated and highly relevant. Thesis well written, error free with no revisions needed. Final thesis approved by Graduate Director. Portion of thesis accepted for publication in a peer-reviewed journal.</p>

OUTCOME	Unacceptable	Needs Improvement	Satisfactory	Good Achievement	Excellent Achievement
<p>A) Present findings orally in a public format accepted by research committee members.</p> <p>B) Critique and justify research project to Graduate Director.</p>	<p>No practice session held with committee members. No presentation performed, data not presented.</p> <p>Unable to critique/justify research during exit interview.</p>	<p>Committee members recommend major changes at practice session prior to final presentation.</p> <p>Presentation performed at unsatisfactory level, lasting too long or not long enough. Unsatisfactory amount of background information, materials and methods and/or conclusions provided.</p> <p>Speech and/or slides difficult for the audience to understand. Poor critique/justification of research during exit interview.</p>	<p>Prior practice session for committee members acceptable. Presentation performed to the department, with enough time given to adequately present the information in a basic scientific format.</p> <p>Background information, objectives, materials and methods, findings and conclusions clearly described. Presentation is clear and concise and understood by the audience. Satisfactory critique/justify research during exit interview.</p>	<p>Presentation performed in front of the department. Presentation is captivating and easily understood, while maintaining a scientific format.</p> <p>Background information, objectives, materials and methods, findings, conclusions and relevance described in a highly informative and engaging manner. Material presented is shown to be relevant to the current field of research. Data presented at a scientific meeting (poster or presentation).</p> <p>Critique/justification of research is thoroughly discussed during exit interview.</p>	<p>Thesis presentation is outstanding, student demonstrates an excellent ability to convey the research at both the scientific and general public level. Audience able to grasp the significance of the research and how it adds to the current body of science in the particular field. Data presented at a scientific meeting, (poster/presentation) generating inquiry from peers. Able to critique/justify research with ease during exit interview demonstrating a mastery of the research topic.</p>

MS in Biology Program Contact Information

Graduate Director: James Sikes, jsikes@usfca.edu ; phone: 415-422-6367

Teaching Assistant Coordinator: Deneb Karentz, karentzd@usfca.edu

Student Services Contact Info:

PUBLIC SAFETY	422-4222 or 2911 (emergency #)
Counseling Center	422-6532
Learning & Writing Center	422-6713
Career Services	422-6216
International Student Services	422-2654
Student Disability Services	422-2613
Koret Gym	422-6821
Health Clinic	750-5995 (St. Mary's Office) 292-3700 (St. Francis Office)
Information Technology Services	422-6668
Bookstore	422-6493
USF One Stop	422-2020
Graduate Student Life	422-5550
Health Clinic	750-5995 (St. Mary's Office) 292-3700 (St. Francis Office)
Counseling Center	6532
Learning & Writing Center	6713
Residence Life	6824
International Student Services	2654
Student Disability Services	2613
Koret Gym	6821
PUBLIC SAFETY	4222 or 2911 (emergency #)
Graduate Student Life	5550

BIOLOGY DEPARTMENT FACULTY RESEARCH INTERESTS (POTENTIAL COMMITTEE MEMBERS)

PAUL K. CHEIN, Professor (1973-) B.S., Chung Chi College, N.T., Hong Kong, Chemistry, 1962; B.S., Chung Chi College, N.T., Hong Kong, Biology, 1964; Ph.D., University of California, Irvine, 1971.

Research Interests: Dr. Chien is interested in the physiology and ecology of inter-tidal organisms. His research has involved the transport of amino acids and metal ions across cell membranes and the detoxification mechanisms of metal ions. E-mail: chienp@usfca.edu

JENNIFER A. DEVER, Associate Professor (2002-) B.S., Ball State University, 1992; M.A., Ball State University, 1994; Ph.D., Texas Tech University, Lubbock, 2000. **Research Interests:** Prof. Dever's interest lies in exploring genetic diversity questions at the population and species level. Specifically, she utilizes molecular techniques to better understand genetic structure in order to identify and conserve endangered and threatened populations. E-mail: jadever@usfca.edu

DENEB KARENTZ*, Professor (1991-) B.S., University of Rhode Island, 1973; M.S., Oregon State University, 1976; Ph.D., University of Rhode Island, 1982.

Research Interests: Dr. Karentz's research focuses on the ultraviolet photobiology of marine organisms: identifying strategies for protection from UV exposure and understanding mechanisms for repair of UV-induced damage. Her most recent work has focused on investigating the ecological implications of Antarctic ozone depletion (funded by the National Science Foundation). E-mail: karentzd@usfca.edu

MARY JANE NILES, Professor (1992-) B.S., San Francisco State University, 1985; Ph.D., University of California, Berkeley, 1992.

Research Interests: Dr. Niles is interested in the regulated development of B lymphocytes, a population of cells critical to protective immunity. Her research focuses on defining those molecular events that promote the assembly, transport, and secretion of antibodies. E-mail: niles@usfca.edu

SCOTT NUNES, Associate Professor, (2000-) B.A., UC Santa Cruz, 1986; Ph.D. Michigan State University, 1997.

Research Interests: Dr. Nunes is interested in questions at the interface between physiology, behavior and ecology. His studies have examined hormonal and energetic regulation of dispersal, play and parental behaviors in mammals. E-mail: nunes@usfca.edu

JOHN PAUL, Assistant Professor (2013-) B.S., Evergreen State College, 1994; M.S., University of Florida, 2001, Ph.D., University of Pittsburgh, 2008.

Research Interests: Plant Ecology

JAMES SIKES, Assistant Professor (2012-) B.S. Furman University, 1998; Ph.D. University of Maryland, 2009.

Research Interests: Prof. Sikes is interested in the evolution and development of regeneration and asexual reproduction in invertebrates, particularly marine and freshwater flatworms. Current research focuses on understanding developmental mechanisms that allow some flatworms to regenerate and the molecular developmental processes that lead to the diversification of asexual reproductive strategies. E-mail: jsikes@usfca.edu

JULIET SPENCER, Associate Professor (2003-) B.S., Worcester Polytechnic Institute, 1993; Ph.D., University of Virginia, 1998.

Research Interests: Prof. Spencer is interested in viral pathogenesis and modulation of the human immune system. She is studying the effects herpesvirus-encoded cytokines with the aim of elucidating downstream signaling events that lead to immune suppression. Present work is focused on determining how viral cytokines have evolved to selectively retain specific cytokine functions that are most beneficial to virus persistence. E-mail: jspencer@usfca.edu

GARY L. STEVENS, Professor (1970-) B.S., California State University, Long Beach, 1964; M.A., University of California, Davis, 1966; Ph.D., University of California, Davis, 1970.

Research Interests: Dr. Stevens' research centers around small mammal demography and environmental monitoring. His studies have included research in the Arctic, California, and Papua New Guinea. E-mail: stevens@usfca.edu

JOHN SULLIVAN, Professor (2000-) A.B., Dartmouth College, 1968; M.S., Lehigh University, 1974; Ph.D., Lehigh University, 1976.

Research Interests: Prof. Sullivan investigates the role of the molluscan immune system in responding to parasitic infection and foreign tissue transplants. He is specifically interested in the interaction between the schistosome parasite, a major cause of human disease, and the snail intermediate host (Funded by the National Institutes of Health). E-mail: sullivan@usfca.edu

CHRISTINA TZAGARAKIS-FOSTER, Associate Professor (2005-) B.S. University of San Francisco, 1990; Ph.D. Microbiology U.C. Davis, 1999.

Research Interests: Dr. Tzagarakis-Foster is interested in studying the Dax1 (**D**osage Sensitive Sex Reversal, **A**drenal Hypoplasia Congenita, critical region on the **X** chromosome, gene 1) protein, a member of a large group of eukaryotic transcription factors called the nuclear hormone receptors. She has found that Dax-1 is a potent transcriptional repressor and is able to block the growth of breast cancer cells using a mouse model system. Currently, Dr. Tzagarakis-Foster's research is focused on investigating the mechanism of repression by Dax-1 as well as examining the role of Dax-1 in preventing breast tumor formation in women. E-mail: ctzagarakis@usfca.edu

NOTES ON BEING A GRADUATE STUDENT

Are there differences between being a graduate student and an undergraduate student? **YES!!**

When you started your undergraduate years you had high school skills. You had high school social skills, high school study skills and you probably had job aspirations that changed frequently. You attended a wide variety of classes, went to parties and were in competition with everyone else in each class. The Teaching Assistants ran the labs and graded your papers, and they may even have been in charge of the lectures.

Now **YOU** are a **Graduate Student** and the freshman are looking up to you.

If you are coming in with other Graduate Students you may be looking at them as competition. In this graduate Biology program at USF this is not really an accurate view as you are going to be working on part of a group research project. You are going to be learning and using valuable new skills from experienced graduate students and/or from your research director.

You probably do not remember the first time you crossed the road on your own. Someone was watching you and was there to help you but they did not hold your hand and walk with you. One of the new skills you will have to learn is to **THINK FOR YOURSELF** and to **WORK INDEPENDENTLY**. As a graduate student you cannot always rely on your advisor to tell you what to do next. It is advisable to consult additional references (journals, books, & peers) before asking the research director. However, if you still are not sure what to do, your advisor is there to point you in the right direction!

Another skill you need to develop is to be a **TEAM PLAYER** in the lab. Part of being a team player means being considerate of the other people in your lab. This includes being tidy and cleaning up after yourself. Always try to work safely in the lab, respect other people's space and do not touch their experiments (unless they ask you for help). Learn from each other.

This program is going to require all your effort and your complete concentration. You will be working long hours, coming in on the weekends and not getting those long undergraduate breaks between semesters. Nothing worthwhile is ever easy!

(content modified from Chem. dept. document w/permission)

Master of Science Degree in Biology Requirements

A total of 24 units in Biology or Biochemistry (of which 16 must be graduate-level), including a thesis based on original research is required. A maximum of six (6) units of graduate research (BIOL 698), and four (4) units of thesis writing (BIOL 699), and a maximum of six (6) units of directed reading (BIOL 695) may be applied toward the degree. All graduate students must enroll in the graduate seminar (BIOL 600) at least one semester it is offered while they are in residence.

The student is expected to meet sequentially the following conditions and requirements:

1. The student and major professor will establish a plan of formal course work that will meet the needs of the student and complement the chosen research program.
2. Under the guidance of the major professor, the student will select a Graduate Committee composed of the major professor and two additional scientists, one of whom may be outside the Biology Department.
3. The committee and student will define a specific biological problem or point of inquiry and formulate a research program. The committee must approve the program and the student will report periodically back to the committee on the progress of the research program.
4. At the end of each semester in the Graduate Program at USF, the student's academic and research progress will be evaluated by the Graduate Director in consultation with the student's major professor. The results of this evaluation must be satisfactory in order for the student to continue in the Biology Master's Program. Two unsatisfactory evaluations may result in the dismissal of the student from the program.
5. The student will file a form for Advancement to Candidacy with the Graduate Director after consultation with his or her major professor. This form should be filed in the same semester the student enrolls in the final courses for completion of the program unit requirements. The student will also file a Thesis Approval form with the Graduate Director.
6. In addition to the successful required formal course work, the student will conduct the approved research program and write a thesis based upon the findings. Failure to make progress towards completion of the degree may result in the dismissal of the student from the program.
7. A final thesis outline is to be submitted to the committee at least one semester prior to submitting the completed thesis. A draft of the thesis is to be submitted to the committee at least one month prior to the completed thesis.
8. During the final semester of the research program, the student will present a seminar to the Biology Department based upon the research conducted.
9. Upon completion of the thesis and its acceptance by the committee members who must sign off on it, the student must file the Thesis Title Sheet (with committee signatures) with the Graduate Director before its submission to the Dean for formal approval.
10. The student must file a Notice to Post form with the Graduate Director before the thesis is submitted to the Dean's office. Once both forms have been signed off on by the Graduate Director, the student will submit the forms along with the signed Thesis title page and the thesis to the Department Program Assistant.

M.S. IN BIOLOGY PROGRAM REGULATIONS

COLLABORATIONS WITH OTHER INSTITUTIONS

Normally, students who intend to exclusively conduct research at another institution shall not be admitted to the USF Master's program. Only under special circumstances will the graduate committee consider the admittance of such students, when it is clear that there would be a true collaboration between faculty in our department and those in another institution.

TEACHING ASSISTANT REQUIREMENT

All graduate students are required to act as a teaching assistant for a minimum of one **(1) semester** during their two-year program.

STUDENT PROGRESS

Every semester there will be an evaluation of the student's progress towards the degree. One form will be sent to the student and one form to the student's research advisor, which will be returned to the Graduate Committee Director. Each year, the student will meet with the Graduate Director to discuss his/her progress. Students who receive an unsatisfactory progress report must meet with the Graduate Director AND together the Director, Advisor and student will come up with a plan of action (in the form of a contract signed off by all party members) to rectify the situation. ***Two semester's of unsatisfactory evaluations may lead to the student being disqualified and dismissal from the Graduate Program.***

ADVANCEMENT TO CANDIDACY

Advancement to candidacy requires a formal, written application distinct from registration. It is to be submitted to the Graduate Advisor. The **thesis approval form** must be filed with the Graduate Advisor with all signatures of the student's Graduate committee and turned into the Graduate Committee Director.

THESIS

All candidates for the Master's Degree in Biology must complete a **thesis approval form** in addition to the application for advancement to candidacy. These forms are to be completed under the guidance of the major advisor and the committee members. After the graduate advisor and committee members have signed the form, the student must forward it to the graduate Director of Biology.

THESIS FORMAT

The following sections must be included: Abstract, Introduction, Methods, Results, Discussion, & References. Details about formatting are to be discussed with the faculty mentor(s), but a general guideline for preparing a Master's thesis is included on page @@@

Abstract: a statement summarizing the important points of the text.

Introduction: this section should include an in depth review of the literature providing solid background information on the specific research problem. It should also include the research question and why it is being asked.

Methods: Detailed description of what research methods were used.

Results: A description of the data generated from your experiments.

Discussion: A comprehensive discussion of the results and how they pertain to the question(s) at hand. The discussion section should detail how this body of work adds to the broader scientific community and what further research needs to be done.

SUBMISSION OF THESIS TO RESEARCH COMMITTEE

The student must arrange regular interviews with the graduate advisor and the research committee members of the thesis and personally submit the preliminary and final draft to the readers. Each committee member is to receive a bound final copy. ***Failure to present the entire preliminary copy of the thesis to these faculty members well in advance of the deadline for filing the product may result in a postponement of graduation.***

FINAL SUBMISSION OF THESIS

When the thesis has been approved and signed by each of the committee members, and the appropriate forms have been filed with the Graduate Director, the student ***must file the original and one copy with the Department Program Assistant who will then submit it to the Dean no later than the final day of***

examinations for a given semester (see University calendar). An electronic pdf file of the thesis is then submitted to the Library along with the completed Electronic Thesis Submission Agreement.

DEADLINE FOR THESIS SUBMISSION

Students enrolled in regular sessions must complete the thesis within four years beginning with the first semester of their enrollment in the graduate program. N.B. Students who fail to complete the thesis within the assigned time limit will be disqualified from the Graduate Division.

University Requirements for Filing Thesis:

- The removal of a student's conditional status is under the department's jurisdiction. When the conditions are met, the department must notify the Registrar.
- The period of time that a student takes as a leave of absence must be deducted from the maximum amount of time allowed for completion of the degree.
- At least **1** semester before a student plans on graduating, he/she must file a Petition to Graduate (form available at the Graduation Center).
- A Graduating student may walk through the graduation ceremonies with no more than **6** units outstanding.
- For commencement purposes, all grades must be on the SI system including changes of grades, waivers and substitutions.
- While working on his/her thesis, the graduate student must be enrolled in at least **1** unit of Thesis Writing each semester. If a student on scholarship has used all 24 units and still has not fulfilled the degree requirements, he/she must pay any tuition fees required by the graduate school registrar.
- Upon the completion of the graduate student's thesis and receipt of the signatures of all thesis committee members, including the signature of the Dean of Arts and Sciences, the Notice to Post is submitted to the Associate Dean of Sciences for his/her signature and then it is forwarded by the Dean's Office to Susan Solomon in the Graduation Center.

GENERAL GRAD CHECKLIST FOR STUDENTS PRIOR TO GRADUATION

DOCUMENTS NECESSARY IN FILE:

___ LETTER OF ACCEPTANCE (WITH APPLICATION MATERIALS ATTACHED)

___ CURRENT TRANSCRIPT

___ ALL PREREQUISITES MET (if not, written waivers, substitutions)

___ ACCEPTANCE LETTER AND TRANSCRIPT

___ ALL TRANSFERRED UNITS ARE APPROVED

___ ALL REQUIRED COURSEWORK DONE

___ STUDENT REGISTERED FOR CURRENT SEMESTER

___ STUDENT COMPLETING WORK WITHIN 4 YEARS TIME LIMIT

___ SUFFICIENT UNITS ON RECORD

___ THESIS COMPLETION DATE RECORDED

___ THESIS COMPLETED

___ NOTICE TO POST FORM SIGNED BY THE GRADUATE DIRECTOR

___ NOTICE TO POST FORM SUBMITTED TO THE DEPT. OFFICE

___ ELECTRONIC VERSION OF THESIS FILED WITH LIBRARY

**UNIVERSITY OF SAN FRANCISCO
DEPARTMENT OF BIOLOGY**

THESIS APPROVAL FORM

MASTER OF SCIENCE DEGREE

CANDIDATE: _____

THESIS COMMITTEE:

MAJOR PROFESSOR _____

MEMBER _____

MEMBER _____

THESIS TITLE:

ABSTRACT:

(Title of Thesis)

by

(Your Name)

Thesis
Submitted in partial Satisfaction of the Requirements
For the degree of

**Master of Science
In Biology**

In the
College of Arts and Sciences
University of San Francisco
San Francisco, California

Committee in Charge

Approved: _____
Faculty Advisor Date

Approved: _____
Committee Member Date

Approved: _____
Committee Member Date

Approved: _____
Dean, College of Arts and Sciences Date

UNIVERSITY OF SAN FRANCISCO

**NOTICE TO POST GRADUATE DEGREE
IN BIOLOGY**

DATE:

TO: SUSAN SOLOMAN
GRADUATION CENTER
CAMPION HALL, B-4

FROM: _____
Marcelo Camperi, Associate Dean of Science

RE: _____
Student Name

Student ID

The Student named above has completed all the requirements for the degree of **Master of Science**, with a major in **Biology**. Please post the degree and order the diploma with a graduation date of: _____.

The following Documentation has been verified and is enclosed:

Admission letter _____

Approved lower division courses _____

Waivers/Substitutions _____

Title Page from Thesis _____

THANK YOU FOR YOUR ATTENTION.

Approved by Graduate Advisor in Biology:

James M Sikes , Director of the Graduate Program

Date

Electronic Thesis Submission Agreement Form

Please type or print all information.

Student Name

Last Name

First Name

Middle Name

USF Student ID #

Program

Thesis Directorperson's Name

Thesis Title

Home Telephone Number

(Area Code)

Email Address (long term)

Mailing Address

Street Address

City

State

Zip/Postal Code

Country

I hereby certify that, if appropriate, I have obtained and attached hereto a written permission statement from the owner(s) of each third party copyrighted matter to be included in my thesis, allowing distribution as specified below. I certify that the version of my thesis / dissertation I have submitted is the same as that approved by my advisory committee. I agree that the above-mentioned document be placed in the University of San Francisco's digital collection repository. I hereby grant to University of San Francisco and its agents the irrevocable, non-exclusive, royalty-free right to reproduce, distribute, and display this thesis in whole or in part in any form including electronic formats now or hereafter developed for educational, research and non-profit uses during the full term of the copyright. I retain all other ownership rights to the copyright including the right to use in future works (such as articles or books) all or part of this thesis. I warrant that I have the right to make this grant unencumbered and complete.

Signature

Date

Electronic Submission Agreement Form
Approved by USF General Counsel
08/26/2009

University of San Francisco – Biology Department
SEMESTER GRADUATE STUDENT PROGRESS REPORT
To be completed by Graduate Advisor

Student Name: _____
Student ID Number: _____
Major Professor: _____
Evaluation Date: _____

1) Research/lab performance

Has the student's rate of progress in the past semester been satisfactory? (if not, explain).

Has the student's thesis-related research in the past semester been satisfactory? (if not, explain).

2) Classroom performance

Has the student's coursework/directed studies performance in the past semester been satisfactory? (if not, explain).

3) Assistantship performance

Assistantship Assignment: Research _____

Teaching _____ N/A _____

Supervisor: _____

Performance: Outstanding _____ acceptable _____ poor _____

4) Scholarship eligibility

If the student is on scholarship units, do you feel they should continue to receive these scholarship units?

USF BIOLOGY DEPARTMENT ANNUAL GRADUATE STUDENT PROGRESS REPORT – To be completed by Graduate Student

NAME _____ DATE _____

DATE ADMITTED TO PROGRAM _____

EXPECTED DATE OF GRADUATION _____

ADVISOR _____

THESIS COMMITTEE MEMBERS _____

Number of Units Completed Thus Far _____

Seminar Completed _____

Classes You Have Been a T.A. For _____

Conference Presentations You Have Made _____

Please circle the appropriate answer for the questions below:

1. My research has progressed well this year. YES NO NOT SURE NA
2. My thesis writing has progressed well. YES NO NOT SURE NA
3. I have met with my committee members. YES NO NOT SURE NA
4. I meet regularly with my advisor. YES NO NOT SURE NA
5. My teaching experience was rewarding. YES NO NOT SURE NA

If you responded NO to any of the above, please explain: _____

What is your overall impression of your experience as a Biology Graduate student so far:

Please summarize your progress so far (if you feel as though you will not be able to graduate within the two year time frame please discuss):

Proposed timeline and schedule (Biology MS Program)

	Fall Semester	Spring Semester
Year 1	<p>Coursework</p> <ul style="list-style-type: none"> • BIOL 600 (Seminar) (1 unit) • BIOL 6xx (Elective) (4 units) • BIOL 695 (Directed Reading) (1 unit) <p>Research</p> <ul style="list-style-type: none"> • Consult with major professor • Select graduate committee • Submit academic/research progress report to Graduate Director <p>Teaching</p> <ul style="list-style-type: none"> • TA undergraduate course (optional)* 	<p>Coursework</p> <ul style="list-style-type: none"> • BIOL 600 (Seminar) (1 unit) • BIOL 6xx (Elective) (4 units) • BIOL 698 (Research) (1 unit) <p>Research</p> <ul style="list-style-type: none"> • Submit research proposal to graduate committee • Present at CARD • Meet with graduate committee • Submit academic/research progress report to Graduate Director <p>Teaching</p> <ul style="list-style-type: none"> • TA undergraduate course (optional)*
Summer	<p>Coursework</p> <ul style="list-style-type: none"> • BIOL 698 (Research) (1 unit) 	
Year 2	<p>Coursework</p> <ul style="list-style-type: none"> • BIOL 600 (Seminar) (1 unit) • BIOL 698 (Research) (2 units) • BIOL 695 (Directed reading) (3 units) <p>Research</p> <ul style="list-style-type: none"> • Present research in graduate seminar • Submit academic/research progress report to Graduate Director • Meet with graduate committee • Thesis outline to committee • Submit Petition to Graduate form <p>Teaching</p> <ul style="list-style-type: none"> • TA undergraduate course (optional)* 	<p>Coursework</p> <ul style="list-style-type: none"> • BIOL 600 (Seminar) (1 unit) • BIOL 698 (Research) (2 units) • BIOL 699 (Thesis writing) (3 units) <p>Research</p> <ul style="list-style-type: none"> • Submit Advancement to Candidacy to Graduate Director • Present at CARD • Submit Thesis Approval form to Graduate director • Submit thesis draft to graduate committee • Seminar presentation to department • Submit Thesis Title Sheet & Notice to Post form to Graduate Director • Electronic submission of thesis • Exit interview with Graduate Director <p>Teaching</p> <ul style="list-style-type: none"> • TA undergraduate course (optional)*

* One semester of undergraduate teaching is required

Master's Project Proposal Suggested Deadlines

A proposal for each Master's project is due to the committee in the second semester after enrollment in the MS program. Below is a suggested timeline and formatting for completion and submission of the proposal.

Dates are suggested for the 2nd semester after enrollment:

Date	To Be Completed
Week 3 (10 Feb— spring) (10 Sep—fall)	Proposal outline with subject headings under each main section (Introduction, Methods, Results, Discussion), also note figures to be included and prepare a short abstract/summary describing the overall project (200 words max)
Week 5 (25 Feb— spring) (25 Sep—fall)	Introduction (Provides a thorough review of the background of the topic and the question to be addressed, with all references cited – at least 20 primary papers should be included) 4-7 pages in length
Week 7 (20 Mar— spring) (20 Oct—fall)	Methods (includes detailed information, such as recipes, reagents, primers, etc., written in the format of a journal article) 3-5 pages in length
Week 10 (01 Apr—spring) (01 Nov—fall)	Expected Results (experiments to be completed are described in detail, including positive and negative controls, why the experiment will be done and what information is expected to be gained from each experiment, etc.) 3-5 pages in length
Week 12 (15 Apr—spring) (15 Nov—fall)	Discussion (explain what the results, if as predicted, will mean, how they will further the field, what are the logical extensions of the project, how will your results fit in with previously described results in the literature, etc.) 3-5 pages in length
Week 14 (01 May— spring) (01 Dec—fall)	Final Version of Proposal with References submitted to committee Committee meeting must occur before classes end in the second semester after enrollment.

Master's Thesis Format Suggestions & Proposed Deadlines

The thesis is the single most important element of the master's degree. It is a test of the student's ability both to undertake and complete a sustained piece of independent research and analysis, and to write up that research in a coherent form according to the rules and conventions of the academic community. Your completed (fully referenced and error-free) master's thesis is due **before** the start of the fifth semester after enrollment. Ideally you will finish the document before that, preferably by the end of the fourth semester.

The final thesis document should be double-spaced with 1-inch margins. References should be in the format of an accepted journal style (agreed upon by advisor and student). In addition to the Introduction, Methods, Results, Discussion sections, you should have a title page, abstract, table of contents, table of figures, list of abbreviations (i.e, GPCR or LPS), and list of references. The document should contain numerous figures illustrating your work (both data figures and schematic diagrams). In general, it is NOT acceptable to simply copy figures from another source. Rather, you should generate your own original figures.

To help you complete the thesis, a list of deadlines is provided to give you time to prepare each section properly and to receive feedback. The responsibility for completion of the thesis is yours alone. These dates are to be referenced during your 4th semester.

Date	Materials Due
Week 3 (10 Feb—spring) (10 Sep—fall)	Introduction and Methods Intro - Complete introduction with references. Start with your proposal intro and expand. Should contain multiple images and be 10-20 pages in length.
Week 5 (01 Mar—spring) (01 Oct—fall)	Methods – a complete description of all techniques used in the project. May contain images. Should be 5-10 pages in length. Also prepare an outline of the results (a list of figures)
Week 7 (20 Mar—spring) (20 Oct—fall)	Results – include all figures for which you already have the data and do not expect the result to change plus figure legends Figures should be provided as printed figures with the legend underneath. Each figure should be on a separate page. Also provide a digital files for each figure that includes the final version of the figure as well as any raw scans of gels, IF images, flow data, or excel files containing data that has been graphed. The description of the results should include a rationale or introduction to each experiment, i.e., “In order to determine whether” Length of this section will be variable. Take time to explain the results for each lane of a gel, or each line on a graph. For each figure, there should be a minimum of 3-4 sentences describing the results.
Week 8 (01 Apr—spring) (01 Nov—fall)	Schedule Departmental Thesis Presentation with Biology program assistant for late April or early May (check with committee members)

Week 12 (15 Apr—spring) (15 Nov—fall)	Discussion The purpose of the discussion is to view your findings in the context of the current literature, relating back to the introduction. What is the significance of your work? How will it add to the field or stimulate future research? The final discussion should be 4-8 pages in length.
Week 14 (01 May—spring) (01 Dec—fall)	Complete thesis revised by primary adviser
Week 15 (05 May—spring) (05 Dec—fall)	Completed Thesis to Committee Members Schedule and give presentation to department on or before this date

Parts of the thesis should be ordered as follows:

- | | | |
|-----|---|----------|
| 1. | Title page | Required |
| 2. | Abstract or executive summary | Required |
| 3. | Acknowledgements or dedications | Optional |
| 4. | Table of contents | Required |
| 5. | List of Figures, Tables or Illustrations | Required |
| 6. | List of Abbreviations | Required |
| 7. | Body of the thesis
(Intro, Methods, Results, Discussion) | Required |
| 8. | Appendices | Optional |
| 9. | Glossary | Optional |
| 10. | Bibliography/Reference list | Required |

The title page should provide the following information in the following order:

The full title of the thesis

The candidate's name

The department and name of the university

The statement: "In partial fulfillment of the requirements for the degree of Masters of Arts/Sciences"

The committee members' names

The place of submission (San Francisco, California)

The year of submission

Abstract

The abstract should be between 100 and 250 words, depending on departmental requirements.

It should be written in the present tense and should normally include the following information:

(1) a statement of the problem the research sets out to resolve; (2) the methodology used; (3) the major findings. Other information is optional unless required by the department.

Introduction

The thesis should begin with a general introduction presenting an overview of what the thesis is about and situating it in the existing research. The introduction should show why the topic selected is worth investigating and why it is of significance in the field. This will normally be done with reference to existing research, identifying areas that have not been explored, need to be explored further, or where new research findings justify a reconsideration of established

knowledge. Having precisely defined the research problem, the introduction should propose a response to this problem, normally in the form of a solution. This response will be formulated as a thesis statement, in one or two sentences, and should make explicit the objective of the research, not simply state an intention to explore or discuss. The thesis statement may (typically in the second sentence, if two sentences are used) include a brief indication of the author's overall findings. The final section of the introduction should briefly outline the structure of the body of the thesis. Where appropriate, this can be linked to and follow logically from the description of the methodology.

Discussion

The introduction and discussion are closely related to each other, thus students should take care in drafting and revising to ensure that these parts reflect and do not contradict one another. The discussion should provide answers or solutions – to the extent this is possible – to the questions or problems raised in the introduction. The argumentation of the thesis should be summarized briefly, and the writer's main findings restated clearly, without going into unnecessary detail or including additional arguments not dealt with in the body. The discussion will normally be expected to return to the wider context from which the thesis departed in the introduction and place the findings in this context. The writer should, if appropriate, elaborate on how the research findings and results will contribute to the field in general and what sort of broader implications these may have. Suggestions may be made for further research where appropriate, but this is not a requirement.

USF COLLEGE OF A&S GRADUATE SCHOOL REGULATIONS

All graduate students are urged to read these general regulations carefully. Failure to be familiar with this section does not excuse a student from the obligation to comply with all regulations. Although every effort has been made to insure the accuracy of this Catalog, students are advised that the information contained in it is subject to change. They should therefore consult the appropriate dean for current information and the Schedule of Classes for any term to relate these regulations to calendar dates. The academic deans may grant reasonable exceptions from academic regulations to students within their colleges/schools. Each college or school may have specific requirements over and above those set forth in this section. Students may not work towards two degrees concurrently, including undergraduate and graduate degrees.

The University reserves the right to revise its regulations and programs in accord with sound academic standards and requirements. Although reasonable efforts will be made to expedite students' completion of graduate programs, the University does not obligate itself to offer courses every semester to enable graduate students to complete their program within a minimal specified time limit. These regulations do not apply to students in the School of Law. Please consult the School of Law catalog for its regulations.

Student Categories

A **Regular Graduate Student** is a student admitted by the University to work towards a graduate degree.

A Graduate Student with **Conditional Status** is one whose application to become a regular student is pending, but who has obtained the permission of the dean of his or her college to enroll in course work for that college, or a student whose prior academic preparation does not include courses which are prerequisite for admission to regular graduate status, or a student whose prior academic work is not sufficiently strong to merit full acceptance as a regular graduate student, but who has obtained the permission of the dean of his or her college to enroll for a specific set of courses. A graduate student with conditional status must meet the specific conditions set by the dean of his or her college before he or she is reclassified to regular graduate student status. If specifically approved by the dean, courses taken by a student with conditional status will count towards the completion of regular graduate degree requirements.

A Graduate Student with **Special Status** is one approved by the University for course work only, or a modified program of studies, but is not working towards a degree. Special Student status is approved by the dean and faculty on a form provided by the Office of Admissions or Office of the Dean and must be renewed each semester. Conditions for obtaining Special Student status and for the renewal of this status are set by each school or college.

Graduate students with Special Student status may register for classes only if space is available. A special graduate student who wishes to change to regular status must apply for this status at the Office of the Dean, must meet all regular graduate admission standards, and, if accepted, will be expected to complete all requirements for the degree. Upon acceptance as a regular student, courses taken while on Special Student status may count towards graduate degree requirements upon recommendation by the graduate advisor and approval of the dean.

A Student Classified as a **Visitor** is one who is not formally admitted to the University but is permitted to attend classes. A visitor is not aligned with a college and is not seeking a degree. A visitor is required to obtain the signature of the dean of the graduate department in which he or she wishes to take courses, and register in the Office of Admissions. To renew this status, the student must file a petition with the Office of Admissions each subsequent semester. Completed course work taken by students with visitor status may not count towards a degree without formal acceptance to the University. A student in this category may enroll for not more than 8 units on a space-available basis starting the first day of classes. Courses may be taken for audit or credit.

Credit Hour Load

	<u>Full Time</u>	<u>3/4 Time</u>	<u>1/2 Time</u>
Masters (A&S students only)	6+	5-4	3

Full-time, part-time, etc., is based solely on the number of units registered for in any term, not on course material. Credit hour load does not include challenge examinations, transfer credit, or similar credit situations.

Graduate Advisors

The dean or faculty designate of each department which offers graduate work will assign a specific advisor for each student. The advisor will analyze the student's past record and assist him or her in planning a graduate program.

Registration, Adding Courses, Dropping Courses, Withdrawals, Incompletes, Academic Honesty, and Transcripts.

All prescribed deadlines must be carefully observed since they affect approval signatures, service fees, and the student's Academic Record. For further information on each of these topics, see the general academic regulations for undergraduates and the University's Schedule of Classes and Academic Calendar for each academic term.

Study Load and Residency Requirement

Students in master's programs are required to register for a minimum of three (3) units each semester, unless their only remaining academic work is their thesis or other major creative work. In the latter case they must register for at least (1) unit every semester until their thesis has been completed, and at least three (3) units total for the thesis or other creative work.

In order to meet the academic residence requirement for the doctoral degree, students in doctoral programs must register for two consecutive semesters with a minimum course load of at least six (6) units per semester. This course work is exclusive of dissertation course units. The minimal full-time load is six (6) units.

Transfer of Credit Policy

In exceptional cases, graduate course work taken at other colleges or post-baccalaureate courses completed at USF may be accepted in partial fulfillment of the graduate program. The student must petition the dean through his/her faculty advisor and the program Directorperson, if applicable. The petition must contain justification and explicit approval of the advisor and the Directorperson if applicable. Credit is limited to six (6) units. Doctoral students may transfer up to 12 units. (General Education core requirements may not be satisfied by transfer of credit for School of Education students. Psy. D. students are limited to 6 units of transfer credit.)

To be acceptable for transfer for credit, courses must:

- be regular graduate or post-baccalaureate level courses;
- be taken at an accredited institution of higher learning, or an Institution which is a candidate for accreditation, within the last seven (7) years; not be supervised field work, directed study or field practice; and have an earned minimum grade of "B".

Double Credit

The same course may not fulfill requirements in both undergraduate and graduate programs. Students may not work towards two degrees concurrently, including undergraduate and graduate degrees.

Probation and Disqualification

Any graduate student whose cumulative grade point average falls below 3.0 will be placed on academic probation. Students on academic probation who fail to raise their cumulative grade point average to 3.0 by the time they have completed the next six (6) semester hours of graduate work are subject to disqualification from the program. Students whose cumulative average falls below 2.5 in any one semester are also subject to disqualification unless otherwise noted by the specific school or college.

Courses Taken at Other Institutions

A student who is working toward a graduate degree at the University of San Francisco but who wants to take a course or courses at another college or university must obtain the written approval of the dean of his/her college or professional school at USF prior to enrolling in such courses. The student must abide by all the rules and regulations specified by the particular college or professional school.

Courses taken without prior approval will not be counted toward the degree.

Leave of Absence for Graduate Students

Registered students in good academic standing who wish to leave the University temporarily should petition for a leave of absence. The appropriate form may be obtained from the Office of the Registrar or the office of the student's dean. The form must be filed with the Office of the Bursar after the student has obtained all the specified signatures. The maximum leave of absence that can be granted at any one time is one academic year. Students who do not return for the semester specified are considered to have withdrawn from the University; they must apply for readmission should they wish to return later.

Students who wish to enroll for course work at other institutions during their leave of absence from the University must obtain their USF dean's prior approval and must observe the rules for courses taken at other institutions noted in the undergraduate regulations sections of this catalog.

Registered students who take a leave of absence from the University from the beginning of the semester until 4:00 p.m. on the census date will receive a full refund of tuition. No refund of tuition will be made to students who take a leave after the census date.

Withdrawal from the University

Students planning to withdraw from the University are requested to make an appointment with the dean of their school or college prior to initiating withdrawal procedures.

A student who wishes to withdraw from the University must secure a withdrawal form from the Office of the Registrar or the office of the student's dean and must obtain the signatures specified on the withdrawal form. Only when the completed form has been returned to the Office of the Bursar does the withdrawal become official. Students who simply absent themselves from class or tell the instructor that they are withdrawing from the University, without filing the required form, will have failing grades (F) posted to their records.

Registered students who withdraw from the University from the beginning of the semester until 4:00 p.m. on the census date will receive a full refund of tuition.

Completed withdrawal forms must be received by the Office of the Bursar before 4:00 p.m. on the census date. No refund of tuition will be made to students who withdraw after the census date.

For programs not following the University Calendar, the final date for withdrawal with refund is based on 20 percent of elapsed class time in relation to the total number of class meetings scheduled for the course.

Students in the College of Professional Studies must submit written notice of their intention to withdraw to the Office of the Bursar. These students need not submit a withdrawal form. The withdrawal letter should include:

- Name and address, home and/or work phone number
- Group number
- Social Security number
- Reason for withdrawal
- Date and session number last attended
- Request for tuition refund, if applicable

Students mailing their withdrawal notifications should send them by certified mail to:

Office of the Bursar
University of San Francisco
Campion Hall
2130 Fulton Street
San Francisco, CA 94117-1080

Standards of Scholarship and Grade System

The work of graduate students is evaluated in terms of the following grades:

- A Outstanding
- B Satisfactory (student meets all major course competencies)
- C Student meets minimum standards for obtaining credit*
- F Failure: student does not meet minimum standards for obtaining credit.

*All graduate students are required to maintain an overall cumulative grade point average of B (3.0). The grade of "C" including a "+" or "-", may be awarded by faculty in the School of Education and the College of Professional Studies. However scholarship standards for students in the School of Education and the College of Professional Studies require that a "B" average (3.00 GPA) be maintained and a lower cumulative GPA may result in probation or academic disqualification.

The grades A, B, and C may be modified by (+) or (-). In addition, the following notations are used:

P "Passing," at least at the lowest passing level (C-); not counted in computing the grade point average. In some graduate programs P/F is used to evaluate those courses associated with research or a field project.

S, U "Satisfactory" or "Unsatisfactory" are notations given in certain courses. If an "S" grade is received, the units will be counted toward the total units required for graduation, but not in computing the grade point average. In some graduate programs, S/U is used to evaluate courses associated with a thesis, dissertation proposal, or dissertation.

I "Incomplete" denotes an examination or required assignment which has been postponed for a serious reason after consultation with the instructor. Students who have not contacted a faculty member regarding completion of course requirements are subject to a failing grade.

Students given approval to postpone course requirements must complete them on the date specified by the faculty member. If the notation is still incomplete at the close of the following semester, it is converted to a failing grade (F).

IP Work "In Progress": final grade to be assigned upon completion of the entire course sequence in courses predetermined by the dean. "In Progress" (IP) notations on graduate student transcripts, if not cleared, will revert to an "F" upon expiration of the time limit for completion of the graduate degree.

W "Withdrawal": is a notation used by the Registrar's Office when a student drops a course after University census date.

NR Grade "Not Reported" by instructor within 10 days after the examination period is a notation used by the Registrar's Office. To correct the transcript the instructor must file a change of grade form. "NR" carries no connotation of student performance and no grade point value is given.

AU "Auditor": course not taken for credit.

RC "Registration Canceled" is placed on the permanent academic record when the Bursar cancels registration due to nonpayment of tuition and fees.

Grade Points

Grade points per semester unit of credit are assigned as follows:

A+	= 4.0	C+	= 2.0
A	= 4.0	C	= 1.7
A-	= 3.7	C	= 0.0
B+	= 3.3		
B	= 3.0		
B-	= 2.7		

Credit for Repeated Courses

Students may repeat courses. Both the initial grade and the subsequent repeat grades will show on the academic record and count in the grade point average. The units earned in the repeated courses will not be included in the total needed for graduation, unless indicated otherwise in this Catalog, e.g., see specific course descriptions.

Registration for Directed Study

Directed study courses are designed for special educational needs which are not met by the available curriculum. A contract is drawn up by the student and the faculty member containing a description of the course content, basic requirements, unit value, and schedule of meetings. The contract is signed by the student, faculty member, department Directorperson, if applicable, and the faculty member's dean. All copies are filed at the Office of the Registrar at the time of registration.

The privilege of enrolling in directed study is ordinarily limited to students with 3.0 grade point averages or higher. Without the specific prior approval of the student's dean, a student may register for no more than one directed study course per semester nor for more than 12 units of directed study towards the degree. Letter grades are recorded for directed study courses.

Minimum Academic Requirements at Graduation

To be eligible for the conferment of a graduate degree, a student must attain at least a B (3.0) cumulative grade point average in all courses counted towards that degree.

Time Limitations for Degree Completion

Time limitations for completing all requirements for the master's degree (including the thesis) are as follows:

- for master's degree students in the College of Arts and Sciences: **4 years.**

Time is counted from the beginning of a student's graduate program, regardless of any leave of absence taken.

Filing for Graduation, Diplomas and Commencement

Students applying for the conferral of a graduate degree must file a "Petition to Graduate" form with the Graduation Center in the term preceding the final semester of registration for degree requirements and within the time limitation for degree completion (see "Time Limitations for Degree Completion" in the Graduate Academic Regulations).

Graduation dates posted on the academic transcript and on the diploma coincide with the last month of the three terms of instruction: Fall — December; Spring — May; Summer — August.

The student's diploma will list the degree and the school or college of the University awarding the degree. The academic transcript will also list the major, and, if applicable, a minor and/or area of emphasis. The official graduation date will reflect the completion of all academic requirements for the degree, and not the last term of enrollment.

Students must complete the program requirements indicated in the catalog in force at the time of their most recent matriculation. Graduate students are evaluated by the college offering the degree for which they are candidates. That college will notify the Office of the Registrar of degree completion. Degrees are in turn posted to transcripts and diplomas ordered by the Office of the Registrar.

Diplomas will be released only to students who have been cleared by the Bursar.

Waivers and substitutions submitted by the dean of the school or college in relation to the University Catalog in effect at the time of graduation shall be considered as altering graduation requirements for the student.

Graduating students will be invited to participate in only one commencement ceremony. Those who complete their degree requirements in December or January of a given academic year will be invited to the December Commencement Exercises. All students who complete their degree requirements in May

or August will be invited to the May Commencement Exercises. Students who must take courses in the Fall term to complete their degree requirements will not be allowed to participate in the preceding May ceremonies. Likewise, students who must take courses in the Spring term to complete their degree requirements will not be allowed to participate in the preceding December ceremonies.

Other Regulations

Please consult the preceding undergraduate section for policy, procedure and other information on such things as transcripts, academic honesty, loan refund policy and release of information. Also please refer to the succeeding sections on General Student Resources and Policies for further information.

Course Numbering

Undergraduate Courses

100 to 299 designate Lower Division courses, 300 to 499 designate Upper Division courses. 400 to 499 designate undergraduate Upper Division courses recommended for, but not restricted to, students studying the subject at the senior level. Courses in this category have prerequisites which students have usually completed at the junior level.

Graduate Courses

500 to 899

subdivided as follows:

500 to 599

designate courses offered at the graduate level which prepare students for a graduate degree program or designate professional teacher-training courses.

600 to 699

designate courses at the master's and credential level.

UNIVERSITY OF SAN FRANCISCO FACT SHEET

UNIVERSITY MISSION

The core mission of the University is to promote learning in the Jesuit Catholic tradition. The University offers undergraduate, graduate and professional students the knowledge and skills needed to succeed as persons and professionals, and the values and sensitivity necessary to be men and women for others.

The University will distinguish itself as a diverse, socially responsible learning community of high quality scholarship and academic rigor sustained by a faith that does justice. The University will draw from the cultural, intellectual and economic resources of the San Francisco Bay Area and its location on the Pacific Rim to enrich and strengthen its educational programs.

CORE VALUES

The Jesuit Catholic tradition that views faith and reason as complementary resources in the search for truth and authentic human development, and that welcomes persons of all faiths or no religious beliefs as fully contributing partners to the University;

- the freedom and the responsibility to pursue truth and follow evidence to its conclusion;
- learning as a humanizing, social activity rather than a competitive exercise;
- a common good that transcends the interests of particular individuals or groups; and reasoned discourse rather than coercion as the norm for decision making;
- diversity of perspectives, experiences and traditions as essential components of a quality education in our global context;
- excellence as the standard for teaching, scholarship, creative expression and service to the University community;
- social responsibility in fulfilling the University's mission to create, communicate and apply knowledge to a world shared by all people and held in trust for future generations;
- the moral dimension of every significant human choice: taking seriously how and who we choose to be in the world;
- the full, integral development of each person and all persons, with the belief that no individual or group may rightfully prosper at the expense of others;
- a culture of service that respects and promotes the dignity of every person

