

**Stanford Department of
Applied Physics
GRADUATE STUDENT HANDBOOK**



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ACADEMIC YEAR 2020-21

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Introduction

This handbook supplements the Bulletin ([ExploreDegrees](#)) and other University publications by providing information about department-specific policies and procedures. It also provides helpful resources to support you during your academic program. Further information and resources are available from the Office if needed.

Because graduate school is an active partnership between the student and the department, the department expects students to familiarize themselves with this information and to seek clarification as needed.

Students are held to the degree requirements included in the Stanford Bulletin ([ExploreDegrees](#)) and department handbook published in the year of matriculation; departmental practices and procedures outlined in the handbook may change year to year.

Department Information

Mailing Address: Department of Applied Physics 348 Via Pueblo Mall
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Mail

The Applied Physics mailboxes are located in the hallway opposite the main office. Student mail is put in the slot corresponding to the shared box that Claire has assigned to you. You should check there regularly, even if you have a mailbox in your eventual lab.

Departmental office space for Ph.D. students is assigned within their research labs by their lab. However, in the Applied Physics lounge, there are lockers for student use. Please speak to Claire and she will assign you a locker and a key. Students may also use the lounge anytime for studying and using the community computer and printer.

Email

Email is the primary method for department announcements and individual notifications. Check your email regularly. You must setup your Stanford email account (free account) which is established when you request your SUNet ID – see: <http://www.stanford.edu/group/itss/services/sunetid>.

Your Stanford email is to be used for all Stanford related business.

Building Access

The Campus Card serves as an identification card, an electronic key, and a debit card, allowing you to enter and access secured facilities, exercise privileges to which you are entitled, and make purchases against funds deposited in a Stanford Card Plan account.

Applied Physics Graduate students receive building access to this building (Spilker). Arrangements should be made with Mike Schlimmer at 650.723.0250 or email to schlimer@stanford.edu by submitting a building access application form. Each student should always make sure that after hours, the doors are securely fastened when you enter and leave the building.

Please keep your Campus Card in a secure location. Notify the department immediately if cards are lost or stolen. You are responsible for your own Campus Card and if your Campus Card is lost or stolen you will be responsible to pay any fees associated with making a replacement.

Distribution Lists

Applied Physics Student Services maintains a private distribution list for academic reminders and other major informational mailings. We will add your '@stanford.edu' email address during your first week here. The list is apgradstudents@lists.stanford.edu.

Student Directory Information

Applied Physics does not maintain its own student directory. Instead, we rely on the AXESS system, in which students review and update their own official directory information, such as local and permanent addresses, email, phone numbers, etc. Please keep this info up to date.

If you wish to keep some or all of your information confidential, AXESS lets you mark items "private" so that only authorized people can see. Please use this privacy function rather than withholding information.

Equipment Usage

The office copier is available for your use for department related business. *Priority of use is given to faculty and staff.* For large copy jobs, please replenish paper after your use. Students are responsible for making their own copies. Students wishing to make color copies will receive a special code on a case by case basis.

A computer is available for your use in the Applied Physics lounge (first floor). This computer is

connected to the copier, thus allowing you to send files to it for printing. The copier is available after hours with your building key.

Research/Conference Funding

Students may apply for up to \$200 in research/conference funding per each academic year. This funding primarily covers the cost of travel for attending conferences and conducting research integral to the dissertation. The research funding should be pre-authorized by your advisor and the department administrator.

Academic Records

Students are welcomed to review their academic files at any time. Please make an appointment with the Student Services Officer as all files must remain in the Main Office. Any forms, coursework, reports, etc. relating to your course of study will be placed in your academic file.

Applied Physics Program Overview

Applied Physics is a graduate department in the School of Humanities and Sciences. It is one of three elements — Applied Physics, Physics, and the SLAC National Accelerator Laboratory — in the broader physics community at Stanford. The Department emphasizes fundamental research in areas of potential technological importance and in areas of science where a physics point of view is particularly effective, including the life sciences. Training for a Ph.D. in Applied Physics is focused on learning distinct skills required for being a successful research scientist and teacher. First and foremost is learning how to ask important questions and then devise and carry out experiments to answer these questions.

Students will work closely with an established advisor during this learning process and also meet regularly with a committee of other faculty members to ensure they understand the importance of diverse perspectives on scientific questions and approaches. Students should learn how to critically evaluate pertinent original literature and to stay abreast of scientific progress in their areas of interest, as well as acquire substantial breadth beyond their own research field. In addition, students should learn how to organize and produce professional presentations and write manuscripts for publication.

The Department also has a tradition of inventing new tools for science and new devices for technology. Present activities include research in accelerator physics, atomic and molecular physics, biophysics, condensed matter and materials physics, nanoscience and technology, photonics, quantum information, synchrotron radiation and ultrafast science.

Because of the broad range of techniques and intellectual points of view that are relevant to contemporary applied physics, the coursework and research in the Department are designed to bring the student into contact with activity in several disciplines related to physics, such as engineering, materials science, biology and chemistry. The program of graduate training is designed to prepare graduates for professional leadership careers in science and technology, either in academia or in industrial environments.

Student research is supervised by the faculty members and also by various members of other departments such as Biology, Bioengineering, Chemistry, Electrical Engineering, Materials Science and Engineering, Physics, the SLAC National Accelerator Laboratory, and faculty of the Medical School who are engaged in related research fields.

Research activities are carried out in laboratories including the Geballe Laboratory for Advanced Materials (GLAM), the Edward L. Ginzton Laboratory (GINZTON), the Hansen Experimental Physics Laboratory (HEPL), the SLAC National Accelerator Laboratory, the Center for Probing the Nanoscale, the Stanford Institute for Materials and Energy Science (SIMES), Bio-X, and the

Stanford PULSE Institute.

In addition, the Chair of the Graduate Studies Committee and Director of Graduate Studies (Professor Phil Bucksbaum for 2020-21) is available for consultation during the academic year by email. The Applied Physics student services office is also an important part of the advising team. Staff in the office inform students and advisors about university and department requirements, procedures, and opportunities, and maintain the official records of advising assignments and approvals.

The number of graduate students admitted to Applied Physics is limited. Applications to the Master of Science and Ph.D. programs should be received by second week of December in the year before. M.S. and Ph.D. students normally enter the department the following Autumn Quarter.

The Department of Applied Physics offers three types of advanced degrees:

- the Doctor of Philosophy
- the coterminal Master of Science in Applied and Engineering Physics
- the Master of Science in Applied Physics, either as a terminal degree or an en route degree to the Ph.D. for students already enrolled in the Applied Physics Ph.D. program.

Admission requirements for graduate work in the Master of Science and Ph.D. programs in Applied Physics include a bachelor's degree in Physics or an equivalent engineering degree. Students entering the program from an engineering curriculum should expect to spend at least an additional quarter of study acquiring the background to meet the requirements for the M.S. and Ph.D. degrees in Applied Physics.

Learning Outcomes

The Ph.D. is conferred upon candidates who have demonstrated substantial scholarship and the ability to conduct independent research and analysis in Applied Physics. Through completion of advanced course work and rigorous skills training, the doctoral program prepares students to make original contributions to the knowledge of Applied Physics and to interpret and present the results of such research.

The master's program is to further develop knowledge and skills in Applied Physics and to prepare students for a professional career or doctoral studies. This is achieved through completion of courses, in the primary field as well as related areas, and experience with independent work and specialization.

Academic Advising

For a statement of departmental policy on graduate advising, go to the "[Graduate Advising](#)" section of the [Stanford Bulletin](#) for further details.

Students will be assigned an academic advisor upon matriculation in their first quarter. The role of the academic advisor is to provide guidance related to academic matters, such as course selection and qualifying examination, as well as research rotations in the first year (see section on Rotation Programs). Once a student secures a research position in his/her first year, the academic advisor will primarily advise the student on academic matters such as completion of course requirements. In the 2020-21 academic year, the student's academic advisor is a member of the Graduate Studies Committee, and in many circumstances will also serve as the chair of the student's qualifying examination committee in the second year. More about the qualifying examination can be found in

the following “Degree Milestones” section of this document.

Academic advisors contact their first year advisee students before orientation and arrange to meet as a group during orientation week. Students should hold a follow-up meeting with their academic advisor no later than week 3 of this first quarter in order to make sure that the student is on track with courses and rotation program. Beyond this initial period, academic advisors are available for students to seek advice from and will continue to be the student's faculty point of contact, in conjunction with the research advisor.

Commitment to Diversity

The Stanford University Department of Applied Physics is committed to fostering a diverse community in which all individuals are welcomed, respected, and supported to achieve their full potential. While race and ethnicity are commonly cited in relation to diversity, we recognize that there are many different aspects to identity, including culture, socioeconomic and educational background, race, ethnicity, gender, sexual orientation, physical ability, life experiences, hobbies, and interests.

We value diversity because we believe that interaction with people with unique backgrounds and life experiences allows us to reach a greater level of innovation in education and research.

Applied Physics Departmental Requirements for the Ph.D.

Specific course requirements should be completed by the end of the 3rd year at Stanford.

Required Basic Graduate Courses. 30 units (quarter hours) including:

12 units: Basic graduate courses in statistical physics, electrodynamics, quantum mechanics, and an advanced laboratory course (see [ExploreCourses](#)). In cases where students feel they have already covered the materials in one of the required basic graduate courses, a petition for waiver of the course may be submitted and is subject to approval by a faculty committee. **You may only waive a maximum of two classes.** In addition, students can request permission from the Graduate Studies Director to **substitute** another course for one of the “standard” courses. Especially if students have already had much of the material of one of the standard courses previously, but not enough to waive the requirement, they are encouraged to look for another course (often in a different department) that better suits their needs to satisfy the requirement. Substitution only requires email approval but no form.

Letter grades required for all courses, unless an explicit exception is granted in advance by the Applied Physics Faculty. Note that an exception has been granted for Autumn 2020 because of the suspension of in-person classes due to the pandemic emergency. See [ExploreCourses](#) for course descriptions, schedules, and grading policies for the term of enrollment.

Statistical Physics (1 qtr) 3-4 units

Standard courses include: AP 217, AP 223, PH 212

Electrodynamics (1 qtr) 3-4 units

Standard courses include: AP 201, PH 220

Quantum Mechanics (1 qtr) 3 units

Standard courses include: AP 203, AP 204, PH 230, 231, 234, 235, 330, 331, 332, EE 222, 223

Laboratory (1 qtr) 3-4 units

Standard courses include: AP 207, 208, 232, BIOE 370, EE 234, 312, MATSCI 171, 172, 173, PH 301

18 units of advanced course work in science and/or engineering to fit the particular interests of the individual student. Such courses typically are in Applied Physics and Physics, but courses may also be taken in other departments, e.g. Biology, Materials Science and Engineering, Mathematics, Chemistry. The purpose of this requirement is to provide training in a specialized field of research and to encourage students to cover material beyond their own special research interests.

At least one course in each of **two areas** other than those of the student's research specialization is required, to ensure breadth. Only 3 units at the 300 or above level may be taken on a satisfactory/no credit basis.

Units from APPPHYS 290, APPPHYS 390, and any 1-unit courses do not count towards this requirement.

Required Additional Courses.

Additional courses needed to meet the minimum residency requirement of **135 units** of completed course work. Directed study and research units as well as 1-unit seminar courses can be included. In addition, courses are sometimes given on special topics, and there are several seminars which meet weekly to discuss current research activities at Stanford and elsewhere. All graduate students are encouraged to participate in the special topics courses and seminars. A limited number of courses are offered during the Summer Session. Most students stay in residence during the summer and engage in independent study or research programs.

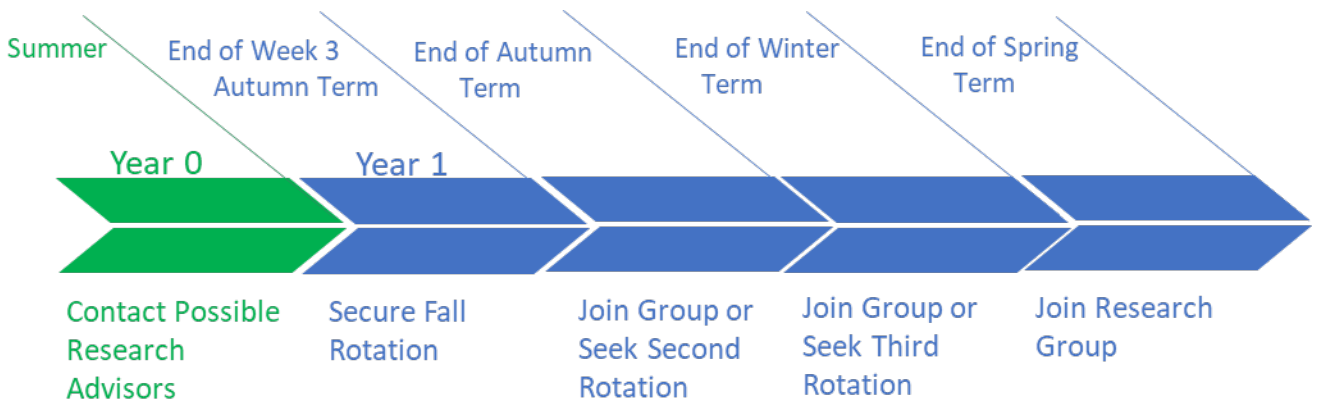
Teaching Requirements

There is no teaching requirement for the doctoral degree in Applied Physics. However students may arrange teaching assistant positions on their own with relevant departments if it is of interest to them. Numerous applied physics students have TA'ed in the physics department.

Rotation Program

Applied Physics offers a rotation program for research assistantships for 1st-year graduate students. The purpose of the rotation program is to acquaint first-year students with research opportunities before making a final selection of a research group. Rotations are not required, and students often find their research group in their first quarter, without rotating into any subsequent group. Students are expected to have found a research group for their Ph.D. research **by the end of the spring quarter of their first year.**

Finding a rotation position: Rotations may be supervised by any member of the Applied Physics faculty, or with faculty in any other science or engineering department at Stanford, including SLAC. Contributing factors are: how many students can the group leader support? Do they need additional students? Is the research a match with your interest? How long can a group support you? Rotation positions are secured by the students through mutual agreement with the rotation supervisor. **This is best finalized no later than the third week of the quarter to avoid any delay in research assistantship support.** A rotation with a different faculty member can be arranged for the subsequent quarter if the student still has not joined a research group. Most students elect to join the research group of their first or second rotation for their Ph.D. dissertation.



Department Degree Milestones

Candidacy

Advancement to Ph.D. candidacy in Applied Physics requires demonstration of the student’s foundations in physics and his/her ability to apply it to research in the wide areas of applied physics. The following milestones comprise the required components. If the Ph.D. student is pursuing a minor, additional approval by the department awarding the minor is also required on the Application for Candidacy.

Course Work

In order to insure that the student has the necessary foundation in physics needed for research in the Applied Physics Department, the Applied Physics Graduate Study Committee has established a set of required basic courses whose contents determine the required level (see the [Stanford Bulletin](#)). A minimum grade average of B is expected in the basic course work taken prior to the candidacy decision.

Ph.D. Qualifying Oral Examination

The Qualifying Oral Exam is the second part of the process for admission to candidacy. The purpose of this Exam is to judge the candidate's broad knowledge of physics as described above and to assess the candidate's potential for original research. In particular, the Department seeks to assess the ability of the student to develop an understanding of the material and an ability to extract the essential ideas of a relatively recent development in physics and/or related technologies as well as the student's ability to present the material in a manner appropriate to a general audience of professionals. The candidate is expected to display his or her knowledge and judgments as to what is important in the topic being discussed.

It is required that the student schedule the examination no later than the Spring quarter of the second year unless otherwise petitioned.

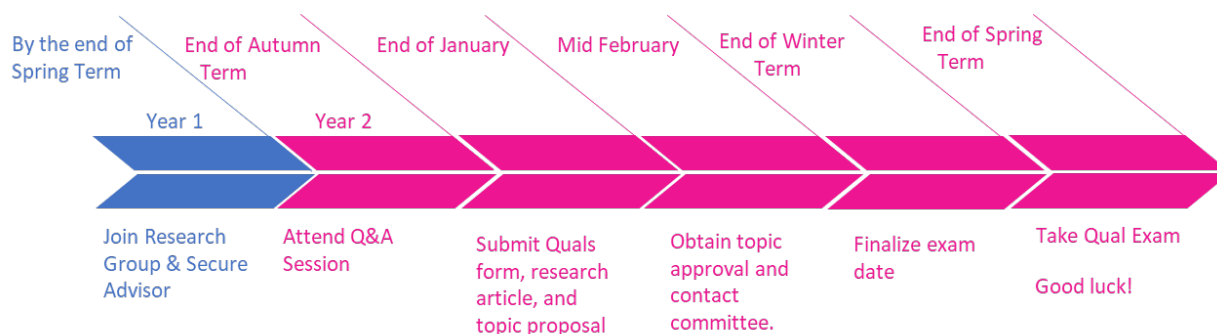
Details of the qualifying examination are described below.

Timeline

The chair of the graduate studies committee will convene a meeting of the second year students towards the end of the autumn or beginning of the winter quarter in order to field qualifying exam-related questions. The students will then submit their proposed qualifying exam topic and **Proposed Qualifying Exam form** to the Graduate Studies Committee (GSC) by a specified deadline at the end of January. One of the faculty members of the GSC will be appointed to be the chair of

a 2nd year student's qualifying exam committee. If modification of the qualifying topic is necessary, the qual exam chair will contact the student for further discussion. After the approval of your topic by the GSC, the student will be so notified by his/her qual exam chair by mid-February. Each student will be responsible for choosing and asking the second member of the his/her qualifying examination committee and identifying at least two possible examination times (2 hours each) that his/her qual exam chair and the second member are available. This second member must be a regular, courtesy or emeritus member of the Applied Physics Faculty. The department will then select a third member of the qualifying committee from regular, research, courtesy and emeritus Applied Physics faculty. The student may suggest a third faculty member who is a member of the Academic Council but the final choice will be made by the department. The student must submit the **Ph.D. Candidacy Review Checklist for Student** form to the AP Department Office at least 2-4 weeks prior to the date of her/his qualifying exam and also submit a copy of a written report summarizing the qualifying examination topic to all members of the committee no later than 1 week before the qualifying examination. The department will request a letter from the research advisor to be made part of the student's application for candidacy and must be available at the time of the qualifying examination. **[NOTE: The student's research advisor may not serve on a student's qualifying examination committee.]**

In most cases the Qualifying Examination Committee will be the Candidacy Committee. In cases where all the basic coursework has been fulfilled exists in the candidate's file at the time of the qualifying examination, the decision on the candidate's advancement to candidacy will be made at the end of the qualifying examination.



Qualifying Exam Topic

The goal of the qualifying exam is to determine whether the student is capable of carrying out cutting-edge research by asking the student to present on a recent development in physics. This presentation should be based on one or two key research articles. Students should consult with their academic advisor or another Applied Physics faculty member on the choice of topic. The presentation should motivate the research, provide appropriate background information, extract the essential ideas of the research in the context of fundamental physics, and comment on the significance of the research.

A qualifying exam topic (or possibly two) should be proposed by the student and must be approved by the Graduate Studies Committee. The topic should not be close to the area of the student's research or any other research in which this/her research group is involved.

Once the student identifies a topic and chooses a key research article, the student will need to

write a ½ to 1-page description of the subject and paper(s) to be discussed. This write-up should be in the style of the abstract of a paper and should explain what is to be discussed and why this is of interest. This write-up will then be submitted in conjunction with the **Proposed Qualifying Exam form**. The form requires the entry of the name of the student's advisor and the topic of the student's thesis along with the topic of your Qual. The student will then be prompted to upload the key research article and topic description. The departmental administrator will then pass these materials to the GSC for approval.

If your advisor is not part of the Physics, Applied Physics or SLAC Departments, you should have a co-advisor in one of these departments (not just for the Qual!). **In this case, the name of the co-advisor is also required on the form.**

Qualifying Exam Evaluation

The student will be expected to prepare an oral presentation on the topic of choice that should be approximately 40 minutes long. The examiners may interrupt the presentation to ask clarifying questions or questions related to what they present or on background material. In some cases, students may not finish presenting the entire presentation if there has been sufficient examination of the student's knowledge and ability to think on his/her feet. This presentation should showcase the student's understanding of the essential ideas of the research.

After the student has had the opportunity to present his/her presentation and field questions from the members of the committee, the student will be asked to step out of the room. The committee members will then confer among themselves to decide on the candidate's performance. They will assign one of the following grades:

A=excellent to very good

B=good to acceptable

C=poor exam performance; retake exam

The Committee is granted some flexibility in its evaluation, and so in some cases student may be required to brush up on background material, have a follow-up meeting with the chair, or provide additional material in writing, rather than retake the exam.

Admission to Candidacy

The qual exam committee usually serves as the Candidacy Committee as well. After the exam evaluation is done, the members will consider admission to candidacy based on student performance in the qual exam, the letter from the research advisor and performance in coursework. If admission to candidacy cannot be determined due to missing letter from the research advisor, the decision for candidacy will be postponed until a later date when the letter is available. If all coursework has not been finished, then admission to candidacy is conditional upon the successful completion of the remaining coursework. At the end of the process, the Chair of the Candidacy Committee will write a short report to the Graduate Study Committee recommending or denying admission to candidacy. In a case where the Candidacy Committee decides to deny admission to candidacy, the reason must be well stated in the written report. The student will be able to appeal to the GSC.

Time Limit for Completion of a Degree with Candidacy

Students are required to maintain active candidacy through conferral of the doctoral degree. All requirements for the degree must be completed before candidacy expires. Candidacy is valid for five years unless terminated by the department (for example, for unsatisfactory progress). The time limit is not automatically extended by a student's leave of absence. A Pregnancy or Parental Leave of Absence automatically extends the candidacy period by one year for a birth mother and three

months (one quarter) for a non-birth parent.

Failure to make minimum progress or complete University, department, and program requirements in a timely or satisfactory manner may lead to dismissal.

All requests for extension, whether prompted by a leave or some other circumstance, must be filed by the student before the conclusion of the program's time limit. Departments are not obligated to grant an extension. Students may receive a maximum of one additional year of candidacy per extension.

Extensions require review by the department of a dissertation progress report, a timetable for completion of the dissertation, any other factors regarded as relevant by the department, and approval by the department; such approval is at the department's discretion.

Third Year Progress Meeting, and Beyond

Following successful advancement to candidacy at the end of Year 2, students begin to formulate their thesis research topic. The department monitors their progress through a progression of departmental committee reviews of increasing formality, which consist of:

- The Third Year Progress Meeting;
- The Fourth Year Progress Report;
- The University Oral Defense, which takes place at the point of writing a Ph.D. dissertation, typically in year 5;
- The written dissertation.

The Third Year Progress Committee consists of your Research Advisor and one additional member of the Applied Physics faculty, who will typically also be a member of your Dissertation Reading Committee and a member of your Oral Defense Committee. The purpose of the Third Year Progress Meeting is to discuss informally the progress toward formulation of thesis research and completion of the other degree requirements. This is not an examination, and there is no recorded evaluation. The Third Year Progress Meeting must take place by the end of the Spring Term of Year 3.

Fourth Year Progress Report

You are expected to fulfill the 4th Year Research Progress Report requirement **before the end of the 4th year winter quarter**. In addition, it is assumed that you will have completed all of the specific course requirements for the Ph.D. degree by the time of your Progress Report. If not, this might be addressed at your Progress Report meeting. The Progress Report should not be viewed as an exam; its purpose is to have an informational discussion between you and your Committee to share what you have for research results so far and for you to get input on your future research plans leading to degree conferral.

To schedule your Progress Report, you need to select your Ph.D. Reading Committee (3 members, including the research advisor as well as the AP research co-advisor if your advisor is outside of AP, all of whom must be Academic Council Members unless an exception has been approved, and one of the three who must be an Applied Physics regular faculty member), and you need to find a date, time and location when all of you can get together. Let me know the 3 you have named as your readers and the arranged-by-you date, time and place at least 2 weeks ahead of time so the necessary paperwork can be prepared for your Committee. The required Reading Committee form needs to be completed by you and signed by your three readers (those on your progress report committee) at the latest right after you give your Progress Report. You can pick up that form from the AP Department Office at any time prior to your progress report to complete and obtain the required signatures once you get the Committee named or you can complete the form on the day of your Progress Report. Feel free to ask if you have any questions as to the make-up of the Committee.

The 3 members of your Reading Committee will be among the members on your University dissertation defense examining committee.

The fourth-year progress report should not take more than 45 minutes with an additional 15 minutes for questions.

Your presentation should contain the following:

1. The topic of your research
2. Your plan of research, as previously drawn up, with a timetable
3. What research has been done to date
4. What has been written to date
5. What research remains to be done
6. What remains to be written to complete the dissertation
7. A schedule for the completion of your research & the writing of your dissertation

The Department's Graduate Study Committee takes this requirement most seriously and does not normally approve a request to postpone the Progress Report to “a later quarter”.

University Oral Examination (Dissertation Defense)

Passing a University oral examination is a requirement of the Ph.D. and J.S.D. degrees. The purpose of the examination is to test the candidate's command of the field of study and to confirm fitness for scholarly pursuits. Departments determine when, after admission to candidacy, the oral examination is taken and whether the exam is a test of knowledge of the field, a review of a dissertation proposal, or a defense of the dissertation.

Timing and Process

Students must be registered in the term in which the University oral examination is taken. The period between the last day of final exams of one term and the day prior to the first day of the following term is considered an extension of the earlier term. Candidacy must also be valid.

The University Oral Examination form and abstract must be submitted to the department graduate studies administrator at least two weeks prior to the proposed examination date. The examination is conducted according to the major department's adopted practice, but it should not exceed three hours in length, and it must include a period of private questioning by the examining committee.

Oral Examination Committee Membership

The University oral examination committee consists of at least five Stanford faculty members: four examiners and the committee chair from another department. All committee members are normally members of the Stanford University Academic Council, and the chair must be a member of the Stanford University Academic Council. Emeritus faculty are also eligible to serve as examiners or as chair of the committee. In Applied Physics, two of the four faculty must be from Applied Physics, one of whom is selected by the Department.

The reading committee, as proposed by the student and agreed to by the prospective members, is endorsed by the chair of the major department on the Doctoral Dissertation Reading Committee form. This form must be submitted before approval of Terminal Graduate Registration (TGR) status or before scheduling a University oral examination that is a defense of the dissertation. The reading committee may be appointed earlier, according to the department timetable for doctoral programs. All subsequent changes to the reading committee must be approved by the chair of the

major department. The reading committee must conform to University regulations at the time of degree conferral.

Out-of-Department Chair for Oral Examination

The chair of a Stanford oral examination is appointed for this examination only, to represent the interests of the University for a fair and rigorous process. The chair of the examining committee may not have a full or joint appointment in the principal dissertation advisor's, co-advisors or student's department, but may have a courtesy appointment in the department. The chair can be from the same department as any other member(s) of the examination committee and can be from the student's minor department provided that the student's advisor does not have a full or joint appointment in the minor department.

Responsibility for monitoring appointment of the oral examination chair rests with the candidate's major department. Although the department cannot require the candidate to approach faculty members to serve as chair, many departments invite students and their advisors to participate in the process of selecting and contacting potential chairs.

Exceptions to Reading Committee

A Petition for Non-Academic Council Doctoral Commitment Members to appoint an examining committee member who is neither a current or emeritus member of the Academic Council may be approved by the chair of the department if that person contributes an area of expertise that is not readily available from the faculty and holds a Ph.D. or equivalent foreign degree. Exceptions for individuals whose terminal degree is not the Ph.D. or equivalent foreign degree may be granted by the Office of the Vice Provost for Graduate Education, upon the request of the student's department chair. The majority of the examiners must be current or emeritus Academic Council members; more specifically, one of four or five examiners or two of six or seven examiners may be appointed to the oral examination committee by means of this petition.

Reporting

The candidate passes the examination if the examining committee casts four favorable votes out of five or six, five favorable votes out of seven, or six favorable votes out of eight. Five members present and voting constitute a quorum. If the committee votes to fail a student, the committee chair sends within five days a written evaluation of the candidate's performance to the major department and the student. Within 30 days and after review of the examining committee's evaluation and recommendation, the chair of the student's major department must send the student a written statement indicating the final action of the department.

Dissertation Procedure

An approved doctoral dissertation is required for the Ph.D. and J.S.D. degrees. The doctoral dissertation must be an original contribution to scholarship or scientific knowledge and must exemplify the highest standards of the discipline. If it is judged to meet this standard, the dissertation is approved for the school or department by the doctoral dissertation reading committee.

Approval

Each member of the reading committee signs the signature page of the dissertation to certify that the work is of acceptable scope and quality. These signatures must be in ink; proxy or electronic signatures are not permitted. One reading committee member, who must be a member of the Academic Council, reads the dissertation in its final form and certifies on the Certificate of Final Reading that department and University specifications have been met.

Dissertations must be in English. Approval for writing the dissertation in another language is normally granted only in cases where the other language or literature in that language is also the subject of the discipline. Such approval is routinely granted for dissertations in the Division of Literatures, Cultures, and Languages, in accordance with the policy of the individual department. Approval is granted by the school dean upon a written request from the chair of the student's major department. Dissertations written in another language must include an extended summary in English.

Submission

Students have the option of submitting the dissertation electronically or via the paper process. Directions for preparation of the dissertation for electronic or paper submission are available at the Office of the University Registrar dissertation web site. If submitting via the paper process, the signed dissertation copies and accompanying documents must be submitted to the Office of the University Registrar on or before the quarterly deadline indicated in the University's academic calendar. A fee is charged for the microfilming and binding of the paper dissertation copies. If submitting via the electronic process the signed dissertation signature page and title page must be submitted to the Student Services Center and one final copy of the dissertation must be uploaded, and approved by the Final Reader, on or before the quarterly deadline indicated in the University's academic calendar. There is no fee charged for the electronic submission process.

a. Format of the Dissertation

Students should familiarize themselves with the [“Directions for Preparing Doctoral Dissertations”](#) as soon as they start writing, so that even early drafts can follow the prescribed form as far as possible. The directions contain detailed instructions about margin spacing, pagination, copyright and permissions for quoting, as well as sample title pages, signature pages, and abstracts. Students should visit the Student Services Center to make sure that all is clear and that there have been no changes.

b. Signatures

Each member of the reading committee will certify by signature on the final copies of the dissertation that he or she has read the dissertation and that in his or her opinion it is of scope and quality acceptable in fulfillment of this requirement of the degree. The same signatures that appear on the Ph.D. Reading Committee form should appear on the Signature Pages of the dissertation. Sometimes the Stanford faculty may prove more mobile than one might anticipate. Therefore, students should keep close track of their committee, especially if they leave Stanford before finishing. If one of the readers is overseas, a student must send copies of the Signature Pages (unfolded, with protective cardboard) to be signed and returned to the department well in advance of the date the dissertation is due.

c. The Abstract

The Graduate Degree Progress Office requires a **dissertation abstract** of no more than 350 words—the fewer the better—to be published in *Dissertation Abstracts*.

d. The Bill

If the author requires a personal bound copy, extra copies may be submitted along with the four required. There is one standard fee, which will cover the cost of binding the first four copies, microfilming one copy, and publishing the abstract. The author will be billed for binding any additional copies for personal use. (See [“Directions for Preparing Doctoral Dissertations”](#) for fees). No mailing of books will be possible. The author will be asked to pick up the extra copies, or make

arrangements to have them picked up at the Student Services Center. Students are encouraged to e-file in most circumstances.

e. Final Submission

Before the Student Services Center will accept the dissertation, at least one member of the committee must see the final draft, indicating that this has been done by electronically signing the **Certificate of Final Reading**. Each copy of the dissertation must contain a Signature Page signed by each member of the reading committee.

The Registrar's Office in conjunction with the Stanford University Library now offers students the option to submit their dissertation/thesis in electronic format. This new electronic submission process is free of charge to students and allows them the ability to log into [Axess](#) and check their pre-submission requirements in the eDissertation/eThesis Center under the academics tab. Once these requirements have been met the "Proceed to Dissertation/Thesis Submission page" button will open up in the student eDissertation/eThesis center and this will allow the student proceed and upload a soft copy of their dissertation/thesis.

Enrollment

Students must either be registered or on graduation quarter in the term they submit the dissertation. At the time the dissertation is submitted, an Application to Graduate must be on file, all department requirements must be complete, and candidacy must be valid through the term of degree conferral.

Degree Requirements for the Terminal Master's Degree

Required Basic Graduate Courses. 45 units (quarter hours) including:

- **12 units:** Basic graduate courses in advanced mechanics, electrodynamics, and quantum mechanics.
- **Letter grades required for all courses.**
 - Advanced Mechanics(1 qtr) 3-4 units
 - Standard courses include: PH 210, PH 211
 - Electrodynamics (1 qtr) 3-4 units
 - Standard courses include; AP 201, PH 220
 - Quantum Mechanics (2 qtrs) 6 units
 - Standard courses include: AP 203, AP 204, PH 230, 231, 234, 330, 331, 332, EE 222, 223
- **33 units** of additional advanced course work in science and/or engineering to fit the particular interests of the individual student. 18 of the additional units may be a combination of advanced courses and 1-unit seminars, to complete the requirement of 45 units. 15 of the 18 units must be at the 200 level and above. At least 18 of these additional 33 units must be taken for a letter grade. Only 6 units below the 200 level may be taken without explicit approval from the Departmental Graduate committee.

There is no financial aid, paid research assistantships, or scholarships for the master's program.

A final overall grade point average (GPA) of 3.0 (B) is required for courses used to fulfill degree requirements.

There are no department nor University examinations. There is no thesis component. There is no Research component. If a student is admitted to the M.S. program only, but later wishes to change to the Ph.D. program, the student must apply to the department's admissions committee.

Time Limit for Completion of the Master's Degree

All requirements for a master's degree must be completed within three years after the student's first term of enrollment in the master's program (five years for Honors Cooperative students). Students pursuing a coterminal master's degree must complete their requirements within three years of the first graduate quarter.

The time limit is not automatically extended by a student's leave of absence. All requests for extension, whether prompted by a leave or some other circumstance, must be filed by the student before the conclusion of the program's time limit. Departments are not obliged to grant an extension. The maximum extension is one additional year. Extensions require review of academic progress and any other factors regarded as relevant by the department, and approval by the department; such approval is at the department's discretion.

Department Requirements for the Coterminal Master's Degree

Stanford undergraduates, regardless of undergraduate major, who are interested in a M.S. degree at the intersection of applied physics and engineering may choose to apply for the coterminal Master of Science program in Applied and Engineering Physics. The program is designed to be completed in the fifth year at Stanford. Students with accelerated undergraduate programs may be able to complete their B.S. and coterminal M.S. in four years.

Application and Admission

Undergraduates must be admitted to the program and enrolled as a graduate student for at least one quarter prior to B.S. conferral. Applications are due on the last day of class of the Spring Quarter for Autumn 2019 matriculation and at least four weeks before the last day of class in the previous quarter for Winter or Spring matriculation. All application materials must be submitted directly to the Applied Physics department office by the deadlines. To apply for admission to the Applied and Engineering Physics coterminal M.S. program, students must submit the coterminal application which consists of the following:

Application for Admission to the Coterminal Master's Program Preliminary Program Proposal Form 1

Two Letters of Recommendation from members of the Stanford faculty Statement of Purpose (no more than two pages)

Unofficial Transcript

45 unduplicated units of work done at Stanford are required for the master's degree. A student may apply for the coterminal B.S. and M.S. program after 120 units are completed and they must be accepted into our program at least one quarter before receiving their B.S. degree. A student must maintain a minimum cumulative GPA of 3.0 in order to maintain good academic standing and complete all requirements within three years of first acquiring graduate standing.

The specific course requirements are:

1. Four breadth courses in subdisciplines of applied physics (16 units): AP 201, AP 203, AP 204, AP 205 required

2. Three engineering courses in a depth area (9 units minimum). At least one must be at the 300 level and the other courses must be at the 200 level or above to provide depth in one area.
3. One laboratory or methods course (3 or 4 units)
4. Seminar participation (3 units)
5. Approved Technical Electives (*6 units minimum that brings up the total units to 45*) These include APPPHYS, CS, CME, EE, ME, BIOE, MATSCI, PHYSICS courses as well as those courses that are formally approved by the graduate studies committee through petition.

Application process: Effective mid-September 2016, the required on-line co-term application for winter quarter 2016-17 and future quarters will be available at <https://www.applyweb.com/stan-term/>

In order to succeed in our co-terminal program, we believe that each student must have formal technical courses in mathematics at the level of MATH 41, 42, 51-53 and physics at the level of PHYSICS 41, 43, 45 as well as exposure to topics in elementary quantum mechanics. In order to fulfill the prerequisite for elementary quantum mechanics, we require that students must have taken one of the following: PHYSICS 130, CHEM 173, MATSCI 157 or equivalent.

The Applied Physics Department does not have any financial aid for co-terminal students. However students can contact a Financial Aid Counselor in the Financial Aid Office to discuss their situation. https://financialaid.stanford.edu/aid/special/co_term.html

University Coterminal Requirements

All applicants must have earned a minimum of 120 units toward graduation as shown on the undergraduate unofficial transcript. This includes allowable Advanced Placement (AP) and transfer credit (see <https://exploreddegrees.stanford.edu/graduatedegrees/#masterstext>).

After accepting admission to this coterminal master's degree program, students may request transfer of courses from the undergraduate to the graduate career to satisfy requirements for the master's degree. Transfer of courses to the graduate career requires review and approval of both the undergraduate and graduate programs on a case by case basis.

In this master's program, courses taken three quarters prior to the first graduate quarter, or later, are eligible for consideration for transfer to the graduate career. No courses taken prior to the first quarter of the sophomore year may be used to meet master's degree requirements. Course transfers are not possible after the bachelor's degree has been conferred.

The University requires that the graduate advisor be assigned in the student's first graduate quarter even though the undergraduate career may still be open. The University also requires that the Master's Degree Program Proposal be completed by the student and approved by the department by the end of the student's first graduate quarter.

Any request for a course transfer from the undergraduate career is subject to approval of the undergraduate and graduate departments.

Honors Cooperative Program (HCP)

The Department of Applied Physics offers opportunities through the Honors Cooperative Program to a number of qualified engineers and scientists employed by companies located in the general

vicinity of Stanford University to pursue graduate work leading to a MS degree. Courses may be taken on a part-time basis by attending classes on campus or by televised courses at students' companies. HCP students have the same privileges as other Stanford students, plus the advantage of being able to attend classes on a part-time basis with financial support provided by their companies.

Requirements for admission through the HCP and for a MS degree through the HCP are the same as the regular MS degree requirements.

General information on the Honors Cooperative Program, including which companies participate in the Program, can be obtained through the [Stanford Center for Professional Development](#).

University General Requirements

For each Stanford advanced degree, there is an approved course of study that meets University and department requirements. The University's general requirements, applicable to all graduate degrees at Stanford, and each department has their own specific department degree requirements.

Graduate education at Stanford is a full-time commitment requiring full-time enrollment, typically at least 8 units during Autumn, Winter, and Spring quarters. Unless permission is granted by the department (for example for field work) enrolled graduate students must maintain a significant physical presence on campus throughout each quarter a student is enrolled.

Requests to enroll for fewer than 8 units during the academic year are approved only in specific circumstances. Students enrolled in the Honors Cooperative or the Master of Liberal Arts programs are permitted part-time enrollment on a regular basis. Graduate students who need only a few remaining units to complete degree requirements or to qualify for TGR status, may register for one quarter on a unit basis (3 to 7 units) to cover the deficiency. Students with disabilities covered under the Americans with Disabilities Act may enroll in a reduced course load as recommended by the Office of Accessible Education (OAE). Matriculated and enrolled pregnant graduate students may request up to two quarters of part-time enrollment for an approved Childbirth Academic Accommodation.

Graduate students must enroll in courses for all terms of each academic year (Autumn, Winter, and Spring Quarters) from the admission term until conferral of the degree. The only exception to this requirement occurs when the student is granted an official leave of absence. Failure to enroll in courses for a term during the academic year without taking a leave of absence results in denial of further enrollment privileges unless and until reinstatement to the degree program is granted and the reinstatement fee paid.

Depending on the program, registration in Summer Quarter may or may not be required; Summer Quarter registration does not substitute for registration during the academic year. Students possessing an F-1 or J-1 student visa may be subject to additional course enrollment requirements in order to retain their student visas.

In addition to the above requirement for continuous registration during the academic year, graduate students are required by the University to be registered:

- 1) In each term during which any official department or University requirement is fulfilled, including qualifying exams or the University oral exam. The period between the last day of final exams of one term and the day prior to the first day

of the following term is considered an extension of the earlier term, with the option of considering the two weeks preceding the start of Autumn Quarter as part of Autumn Quarter (rather than as part of Summer Quarter).

- 2) In any term in which a University dissertation/thesis is submitted or at the end of which a graduate degree is conferred.
- 3) Normally, in any term in which the student receives financial support from the University.
- 4) In any term for which the student needs to use University facilities.
- 5) For international students, in any term of the academic year (summer may be excluded) for which they have non-immigrant status (i.e., an F-1 or J-1 visa).

Individual students may also find themselves subject to the registration requirements of other agencies (for example, external funding sources such as federal financial aid). Course work and research are expected to be done on campus unless the department gives prior approval.

Degree programs have the option to include the two weeks before the start of Autumn Quarter as part of Autumn Quarter for the purposes of completing milestones and departmental requirements. The following considerations apply to this exception:

- 1) The student must enroll in the subsequent Autumn Quarter in the applicable standard enrollment category prior to the completion of the milestone; a leave of absence is not permitted for that Autumn Quarter.
- 2) A student exercising this option will not be eligible for Graduation Quarter status until the following Winter Quarter at the earliest.
- 3) This exception is permitted only for milestones administered by the department, such as qualifying examinations or University oral examinations.
- 4) This exception does not apply to deadlines administered through Stanford University, such as filing the Application to Graduate, or Dissertation/Thesis submission.
- 5) Degree programs are not obligated to exercise this option solely because a student requests it.

Registration Procedures

Stanford's registration process is part of AXESS, the Registrar's student information system. This Web-based system alerts you of upcoming deadlines, gives instructions about meeting them, and lets you check your official records. Use AXESS to update your phone number and addresses (including email address) and apply for housing. <https://axess.stanford.edu/>

New students will need to know their student ID number as listed on the Student ID card and admission letter.

Step 1: Payment

Stanford ePay (<http://fingate.stanford.edu/students/index.html>) notifies students on the 20th of each month when their monthly online University bill is available. Bills are due on the 15th of the following month. For graduate students, the first bill of the academic year is due October 15. Late fees are charged after this date! Your bill will show charges for tuition, ASSU fees, insurance, housing, and other charges.

Your bill should reflect anticipated aid for the quarter for tuition from fellowships or assistantships, and fellowship stipends (but not RA/CA salaries; payroll is a separate system). If it does not, check with the Applied Physics Student Services Office to verify that your financial aid has been processed. Note: Late fees are not charged for items paid by fellowship/assistantships.

Step 2: Courses

Before the quarter starts, you may enroll in classes when ACESS opens for enrollment. You may also attend a class before officially enrolling in the course to help you make an informed decision about whether to take a particular course. (Some courses have limited enrollment and require that you sign a class list in advance; check the listing for each course in Explore Courses for "notes" about signup lists.)

When you have decided which courses to take, use AXESS to submit your official Study List for the quarter. Please pay attention to the deadline for entering your online Study List; a late fee will be charged! Also pay attention to the "drop/add" deadlines and "withdraw" deadline - use AXESS to make any of these changes. Petitions are required for late submissions and a fee is charged!

Note: fellowships are not fully disbursed until a student is enrolled in at least 8 units, qualifying as a full-time student. Students expecting a fellowship stipend check should enroll in at least 8 units at least two weeks before the quarter starts. You can add or change courses later.

In considering what courses to take, a student should talk with his/her academic advisor about long-term plans as well as the appropriateness of particular classes. It is the student's responsibility to schedule meetings with the advisor; this should be done first during Autumn registration, and then at least once a quarter. [Note: for MS students, the week after first-quarter midterms is the recommended time to complete the Master's Program Proposal.]

Questions about the content of a particular course are best addressed to the instructor of the course, while questions about the quarter, days and times of courses can often best be answered on ACESS through Explore Courses. Of course, you may also come to the Applied Physics Student Services Office with questions about your program, course requirements, or general academic advice.

Step 3: Grades

You can check your grades on AXESS as soon as they are entered by the instructor.

Registration Requirements

All graduate students are required to register as a full-time student – either at 8-10 units (minimum full-time registration) or at full tuition, every quarter until they graduate. Exceptions are as follows:

Student is a regular University employee.

Student has an Office of Accessible Education approved academic accommodation. Student qualifies for GFR (Graduate Final Registration). See GFR, below.

Student qualifies for Graduation Quarter. See Graduation Quarter, below.

Student is an Applied Physics/Ph.D. candidate and TGR registration has been approved by the Registrar. Student enrolls in a 0-unit TGR course. See TGR, below.

Summer quarter only. See Summer Quarter, below.

To claim reduced tuition for reasons 1 or 2 above, you must submit a petition to the Student Services Center. [Students in the Honors Coop Program (HCP) claim reduced tuition status through their company coordinator and the SCPD staff.]

Satisfactory Progress Requirements

Stanford University defines academic requirements which constitute "satisfactory progress" and allow continued student status. Graduate students should maintain an overall average GPA of 3.0 (B). In addition, there are minimum unit standards each quarter: Students who are registered at maximum tuition must enroll for at least 11 units each quarter and must pass at least 8 units per term. Those registered at the 8-10 unit rate ("minimum full-time registration") must pass at least 6 units per term. Students with permission to enroll for fewer than 8 units must complete proportionate number of units, unless other requirements are specified. Students who have been granted TGR status (see TGR) enroll in a 0-unit TGR course, which puts them at full time status.

Other University requirements for satisfactory progress include timely completion of department and program requirements, such as admission to candidacy, successful completion of qualifying exams, and so on.

Students identified as not meeting the requirements for satisfactory progress are reviewed by the department on a quarterly basis. Generally, there is discussion with both the student and the advisor. Approval for continuation in the degree program is contingent on agreement by the student and department to a suitable plan to maintain satisfactory progress in subsequent quarters. The Graduate Degrees section of the Stanford Bulletin describes the University's satisfactory progress requirements, guidelines for handling problems and, if necessary, the procedures for dismissal of a student from the graduate program.

Summer Quarter Registration and Exceptions

Summer is an academic quarter at Stanford, but it is "special" in several ways. First, fewer courses are offered than during other quarters in the University as a whole. Second, most students may enroll

less-than-full-time and pay tuition on a unit basis or choose not to enroll at all. Note: Students receiving any summer funds, including RAs and fellowships, must be registered. International students may have much more restrictive registration requirements as a condition of their visas and should check with the International Center for details.

TGR (Terminal Graduate Registration)

Terminal Graduate Registration (TGR) is a reduced-tuition registration status available to students who have completed residency and course requirements but not yet completed thesis-related or project work. Most students in the Applied Physics Ph.D. go TGR" several quarters before graduating.

A student with TGR status registers each quarter for 0 units of TGR dissertation (802) with the advisor's section number. The advisor then submits a grade each quarter, usually an N which signifies "continuing work, satisfactory progress" which is replaced by an S at the end of the thesis. Other possible grades are N- for "continuing work, unsatisfactory progress", and No Credit.

For TGR students, University standards of minimal progress require an N grade for each quarter of the academic year. One N- is considered a warning; if it is followed by another N-, the student's registration should be placed on Hold until the problems have been identified and resolved with the advisor.

TGR status does not affect length of candidacy or deadlines for completion of degrees.

TGR status, once granted, remains in effect for the remainder of the student's degree program. The student's tuition will automatically be adjusted to TGR rates for each succeeding quarter. Granting TGR status means that the department agrees that all requirements for the degree, other than the thesis or project, have been met. It will not be possible to require additional work as a condition of graduation. Therefore, the department and advisor will follow the same procedures for approving TGR status as for clearing students to graduate.

Ph.D. students who wish to go TGR must have:

- been admitted to candidacy
- filed a Dissertation Reading Committee form
- received a passing grade for all units including thesis which are listed on the candidacy form (or its latest revision)
- acquired 135 units of residency. This includes the 45 units of residency required for the M.S. degree, or officially transferred from a master's at another university
- completed all other department requirements for the degree, except the dissertation and the University Oral Examination.

M.S. students in Applied Physics do not go TGR.

Reduced Tuition Quarter

Graduate Final Requirement, or GFR, is a one-quarter registration status available to students who have 7 units or less remaining before they graduate (and leave the University), or before they file for TGR status. For that one quarter only, students may adjust their tuition down to the number of units (3 units minimum) required to complete their unit and residency requirements. Because they are registered at less than 8 units, students are considered part-time students during the GFR quarter, and the Registrar's office cannot certify them as full-time students for insurance, loans, visa status, etc.

Note: international students should check with the International Center well in advance to determine whether their visas permit this status.

For most graduate students who are not yet TGR, the GFR quarter is the only time they can reduce the tuition bill to less than 8 units for Autumn, Winter, or Spring quarter.

To apply for GFR, the student should have a "Request for Graduate Tuition Adjustment" form signed by the advisor and the Applied Physics Student Services Office and submit it to the Student Services Center. (If necessary, submit a revised candidacy form or program proposal at the same time.) Blank forms are available in the office or online.

Note: This status can only be used once. If a student does not graduate or achieve TGR status at the end of the Graduate Final quarter, he returns to standard tuition status. Therefore, students should check carefully to make sure that all requirements will be satisfied by the units requested, and that all Incompletes will be cleared and all paperwork for graduation or TGR will be filed on time, in order to avoid large tuition bills in the following quarter(s).

Graduation Quarter (Final Quarter)

Registration is required for the term in which a student submits a dissertation or has a degree conferred. Students who meet the following conditions are eligible to be assessed a special tuition rate for the quarter in which they are receiving a degree:

All course work, degree requirements, oral exams, and residency requirements have been completed prior to the start of the requested term with the exception of the dissertation/project or thesis.

The graduate/professional student has only to submit the dissertation/project or thesis by the deadline for submission in the term designated as the Graduation Quarter.

Graduate students must have enrolled in the applicable 801 or 802 section relevant to their degree during the Graduation Quarter;

The student has formally applied to graduate via Axess;

The student has filed all necessary forms regarding Graduation Quarter before the first day of the term chosen as the Graduation Quarter;

A graduate student must have enrolled in the term immediately preceding the term chosen as the Graduation Quarter;

Students on Graduation Quarter are registered and have the rights and privileges of registered students. There is a registration fee and students will be assessed University health insurance (unless waived) and ASSU fees.

Leaves of Absence

A student who wishes to interrupt graduate study may apply for a leave of absence. The [Leave of Absence](#) form is on the Registrar's Office website or may be picked up in the Applied Physics Student Services Office. You should obtain your advisor's signature before coming to the Office for department signature. For non-US citizens, a signature from the International Center is then required before the form can be submitted to the Registrar's Office. Leaves of Absence are normally granted for a maximum of one year. Extensions may be approved under exceptional circumstances.

Students on leave who would like on-campus housing upon their return should keep in mind that

the housing lottery for the following year is held in mid-May. (ADD INFORMATION ON NEW POLICY)

Leave of absence petitions should be fully approved and filed with the Registrar's office before the first day of the quarter to avoid tuition and insurance fees.

Research and Thesis Units

Many Ph.D. graduate students in Applied Physics are interested in becoming involved in the research here. Each faculty member will have specific expectations for students who want to work with them, and students should talk directly with the faculty about this. However, some general information and advice may help in getting started:

APPPHYS 290, is the directed research course for graduate students to satisfy the Ph.D. qualifying exam requirement; or for research that may lead into a dissertation. You may take APPPHYS 290 several times, with the same or different faculty members. (Refer to specific degree descriptions for details about how many units of research may be used to satisfy which requirements.) Students may also do research in other departments: check the Bulletin or ask the faculty member you are working with to see what course number is appropriate for your work.

Students in the Ph.D. program who have passed qualifying exams are eligible to enroll in APPPHYS 390, Ph.D. Dissertation. (Before passing quals, enroll in APPHYS 290.) After going TGR, Ph.D. students must enroll in APPPHYS 802 TGR Dissertation for 0-3 units each quarter. Important: When you enroll in any research/thesis course, always select the section number which corresponds to the faculty member who will grade you. [AXESS helps you find the faculty member's section number.

Units: Talk with the faculty member before the quarter starts about how many units to sign up for and clarify the expected work and timetable for the quarter. The first "290" is usually for 3 units, with a projected workload roughly corresponding to a standard class. After that, the number of units each quarter varies widely. Students working on their Ph.D. thesis will normally enroll in 1-10 units of thesis each quarter, depending on how many units of courses they are taking. (TGR students have completed all unit requirements and enroll for 0-3 units of TGR.

Getting started: If a topic is discussed in one of your courses or there is a research group/lab you would like to explore further, go to the faculty member's office hours to discuss it (or ask for a specific appointment). Do this before the quarter you want to begin research. Describe the research area, the problem, or the lecture material which particularly interests you. Ask, "Is there any possibility of working in this area with you?"

Residency Requirements (Units per Degree)

Each type of graduate degree offered at Stanford (e.g., M.S., Ph.D.) has a residency requirement, stated as a number of academic units required for the degree. Residency units refer to the number of units completed at Stanford plus transfer residency units (see below).

For a Ph.D., the student must have at least 135 units. For the master's degree, a student must have at least 45 units.

Transferring Residency

As noted above, students who receive their M.S. at Stanford must have completed at least 45 units; these are included in the residency unit total required for a (related) Ph.D. degree. Therefore, their Ph.D. residency requirement of 135 units is effectively 90 units in addition to the M.S.

Students who received their M.S. elsewhere may transfer up to 45 units of residency for that graduate work, which in essence makes them "even" with Stanford's M.S. students. Using an Application for Graduation Residency Credit form:

- Students list the courses taken elsewhere as a graduate student.
- Stanford allows 12 units of transferred residency for thesis work or for courses without Stanford equivalent. For anything over 12 units, the student must list a (roughly) equivalent, graduate-level course which is taught at Stanford but which the student did not take here.
- Academic Advisor validates the (rough) equivalence.
- Academic Advisor and student services administrator sign the form;
- The Graduate Degree Progress office reviews it and officially grants residency credit.

These courses and units do not appear on any Stanford transcript. Moreover, they do not count toward Ph.D. degree course requirements, just as Stanford courses used to satisfy M.S. requirements cannot also be used to satisfy Ph.D. requirements. They are used solely to satisfy residency requirements.

When to file: This form may be filed when the student applies for candidacy, or later. Applied Physics degree students must first complete one quarter at Stanford; Ph.D. students must first pass the qualifying exam. MS students cannot transfer units from elsewhere, because the 45 units of residency required for the MS must all be Stanford units.

Adding a Degree Level

A multi-purpose online form/petition entitled "Graduate Program Authorization Petition" is used to apply for changes in department or degree level. If you were admitted to study for the Ph.D. degree and decide to pursue a master's degree along the way, you must have this petition fully approved in the quarter prior to receiving your M.S.

International students will also need the approval of Bechtel International before adding degrees. This can take time so please plan ahead.

Completing a Degree

Stanford University officially confers degrees each academic quarter. In order to receive a degree, a student must officially apply to graduate before the degree conferral application deadline - see AXESS for details. (To ensure that a diploma will be ready by the June Commencement ceremony, students must apply to graduate by early April.) In addition to applying to graduate, a student must be sure that all degree requirements have been met before the end of the final quarter: this includes filing a revised program proposal or candidacy form, having all Incompletes officially changed to passing grades, etc. Come to the Applied Physics Student Services Office early in your final quarter to review your records and be sure you meet all graduation requirements.

Degrees are conferred during the first week of the next quarter (except spring, when degrees are

conferred on Commencement Sunday). The conferred degree and date of conferral will then appear on transcripts. Students who have no outstanding Stanford obligations (financial or academic) may obtain an official "certificate of completion" from the Registrar's Office as soon as degree requirements are completed (submit request via AXESS).

Diplomas are distributed once a year at the June Commencement. In addition, diplomas for graduate degrees are available for pickup or by mail. Indicate your preference on Axess when you apply to graduate. At the annual Commencement ceremonies each June, the University and the Department honor all degree recipients for the past year. Several days of events culminate in a University-wide conferral ceremony, followed by the Department's awards ceremony, at which diplomas, and awards are distributed, and our reception for graduates and their families. Students should look for details about these ceremonies, caps and gowns, etc. early in spring.

The next step:

Students who will continue at Stanford after receiving an advanced degree must officially change their "degree level" before registering for the next quarter (see above).

Graduates who are moving on to jobs or other graduate work are encouraged to keep in touch, not only with the department but also with the Career Development Center (CDC) and the Alumni Association. Your career path will be of interest to students wondering about their own futures, as well as to the faculty and staff in Applied Physics.

Note: Non-U.S. citizens who want to preserve their ability to work in the U.S. should consult with the Bechtel International Center about visa paperwork requirements several months before graduation.

Professionalism

Code of Conduct

All members of the University Community are responsible for sustaining the high ethical standards of this institution, and of the broader community in which we function. The University values integrity, diversity, respect, freedom of inquiry and expression, trust, honesty and fairness and strives to integrate these values into its education, research, health care and business practices.

In that spirit, this Code is a shared statement of our commitment to upholding the ethical, professional and legal standards we use as the basis for our daily and long-term decisions and actions. We all must be aware of and comply with the relevant policies, standards, laws and regulations that guide our work. We are each individually accountable for our own actions and, as members of the University Community, are collectively accountable for upholding these standards of behavior and for compliance with all applicable laws, regulations and policies.

<https://adminguide.stanford.edu/chapter-1/subchapter-1/policy-1-1-1>

Fundamental Standard

The Fundamental Standard has set the standard of conduct for students at Stanford since it was articulated in 1896 by David Starr Jordan, Stanford's first president. It states:

Students at Stanford are expected to show both within and without the University such respect for

order, morality, personal honor and the rights of others as is demanded of good citizens. Failure to do this will be sufficient cause for removal from the University. See website at communitystandards.stanford.edu

Understanding the Fundamental Standard

The Fundamental Standard is an aspirational statement of Stanford's ideal of civic and moral community. Although the spirit of the Fundamental Standard remains unchanged since 1896, these aspirational learning goals for all Stanford students elaborate its basic values today:

- i. Students are expected to respect and uphold the rights and dignity of others regardless of race, color, national or ethnic origin, sex, age, disability, religion, sexual orientation, gender identity, or socio- economic status.
- ii. Students are expected to uphold the integrity of the university as a community of scholars in which free speech is available to all and intellectual honesty is demanded of all.
- iii. Students are expected to respect university policies as well as state and federal law.
- iv. For the purposes of clarity, students should be aware that they may be subject to discipline at Stanford University for acts of misconduct including:
 - Violation of university policy
 - Violation of a specific university directive
 - Violation of an applicable law
 - Physical assault
 - Theft of property or services
 - Threats
 - Hazing
 - Hate crimes
 - Alcohol- and drug-related violations, including driving under the influence
 - Intentional or reckless property damage
 - Seeking a university benefit to which a student is not entitled
 - Falsifying a document
 - Impersonating another
 - Computer violations
 - Knowingly or recklessly exposing others to significant danger

Penalties for Violating the Fundamental Standard

There is no standard penalty that applies to violations of the Fundamental Standard. Infractions have led to penalties ranging from formal warning and community service to expulsion. In each case, the nature and seriousness of the offense, the motivation underlying the offense and precedent in similar cases are considered.

Honor Code

The Honor Code is the University's statement on academic integrity. It is essentially the application of the Fundamental Standard to academic matters. It articulates university expectations of students and faculty in establishing and maintaining the highest standards in academic work. Pro-

visions of the Honor Code date from 1921, when the honor system was established by the Academic Council of the University Faculty at the request of the student body and with the approval of the President. The Honor Code reads:

1. The Honor Code is an undertaking of the students, individually and collectively:
 - 1) that they will not give or receive aid in examinations; that they will not give or receive unpermitted aid in class work, in the preparation of reports, or in any other work that is to be used by the instructor as the basis of grading;
 - 2) that they will do their share and take an active part in seeing to it that others as well as themselves uphold the spirit and letter of the Honor Code.
2. The faculty on its part manifests its confidence in the honor of its students by refraining from proctoring examinations and from taking unusual and unreasonable precautions to prevent the forms of dishonesty mentioned above. The faculty will also avoid, as far as practicable, academic procedures that create temptations to violate the Honor Code.
3. While the faculty alone has the right and obligation to set academic requirements, the students and faculty will work together to establish optimal conditions for honorable academic work.

Examples of conduct that have been regarded as being in violation of the Honor Code include:

- Copying from another's examination paper or allowing another to copy from one's own paper
- Unpermitted collaboration
- Plagiarism
- Revising and resubmitting a quiz or exam for re-grading, without the instructor's knowledge and consent
- Representing as one's own work the work of another
- Giving or receiving aid on an academic assignment under circumstances in which a reasonable person should have known that such aid was not permitted

To learn more about citation styles, visit: <https://undergrad.stanford.edu/programs/pwr/resources/documentation-and-citation-resources-writers>

In recent years, most student disciplinary cases have involved Honor Code violations; of these, the most frequent arise when a student submits another's work as his or her own or gives or receives unpermitted aid. The standard sanction for a first offense includes a one-quarter suspension from the University and 40 hours of community service. In addition, most faculty members issue a "No Pass" or "No Credit" for the course in which the violation occurred. The standard sanction for multiple violations (e.g. cheating more than once in the same course) is a three-quarter suspension and 40 or more hours of community service. For more information, see website on communitystandards.stanford.edu

As detailed in the bulletin (Guidelines for Addressing Graduate Student Professional Conduct) <https://exploreddegrees.stanford.edu/graduatedegrees/#degreeprogresstext>, there are expectations

for graduate students as they prepare to be responsible members of professional communities.

Graduate students are expected to meet standards of professional behavior, including: being present on campus to meet the academic and research expectations of the school or department; communicating in a timely, respectful and professional manner; complying with institutional policies and procedures; and participating appropriately in the program's community. Graduate students are expected to familiarize themselves with applicable policies and degree program requirements. Failure to meet these standards may be grounds for dismissal.

Communication:

Per University policy, email to student's email account will be presumed to have been received and read by the student. See: <https://exploreddegrees.stanford.edu/academicpoliciesandstatements/>

Community Standards Resources

Students are responsible for familiarizing themselves with relevant University policies and procedures. Here are five helpful policy sources:

- The Stanford Bulletin (Exploreddegrees) is the official statement of University policies, procedures, and degree requirements. <https://exploreddegrees.stanford.edu/>
- Graduate Academic Policies and Procedures (GAP) includes information specific to graduate students, including: general requirements, academic progress, University milestones, and graduate aid policy. <https://gap.stanford.edu/>
- The Administrative Guide contains policies related to graduate student employment and assistantships. <https://adminguide.stanford.edu/>
- The research Policy Handbook contains a collection of policies, guidelines and general information related to research at Stanford. <https://doresearch.stanford.edu/policies/research-policy-handbook>

It may be difficult to locate specific policies and procedures, so feel free to stop by the office and inquire.

Diversity & Inclusion

Applied Physics is committed to ensuring that the community is diverse, inclusive and respectful and will take necessary action if that is not the case. To that end, we bear a collective responsibility to:

- Be a role model of respect, acceptance and understanding and address issues when we encounter them. We should also speak up for colleagues, peers and students if they cannot speak for themselves.

If you experience or become aware of concerning behavior, there are many resources that can help:

- The Director of Graduate Studies: The DGS can be of assistance if there is an issue with curriculum or classes.
- Staff: If you feel comfortable speaking with staff on a confidential level, they can be of assistance or direct you to the right resource.
- Graduate Life Office: Assists with all aspects of graduate life and can point you to

resources for mental health as well.

- Title IX Office

Resources for students <https://diversityworks.stanford.edu/resource#select=.students>

<https://vpge.stanford.edu/diversity-initiatives/commitment>

Grievances

A Stanford graduate student who believes that he or she has been subject to an improper decision on an academic matter may file a grievance pursuant to the Student Academic Grievance Procedure. <https://exploreddegrees.stanford.edu/academicpoliciesandstatements/#studentacademicgrievanceproced uretext>.

An individual whose matter has been substantially addressed through one of Stanford's grievance procedures (including but not limited to the Student Academic Grievance Procedure, the Student ADA/Section 504 Grievance Procedure, the Grievance Resolution Procedure for Post-doctoral Scholars, the Student-Athlete Grievance Procedure, or the Student Non-Academic Grievance Procedure) may not raise and seek redress of the same matter under a different Stanford grievance procedure. The University retains discretion to determine when a matter has been substantially addressed.

For other types of grievances, students should review the section on the Student Non-Academic Grievance Procedure, <https://exploreddegrees.stanford.edu/nonacademicregulations/#text- stud-nonagrieproc> and consult concerning applicable procedures with the Director of the Diversity and Access Office, Kingscote Gardens, 419Lagunita Drive, Suite 130, Stanford, CA 94305-8550; (650) 723-0755 (voice), (650) 723-1791 (fax), equal.opportunity@stanford.edu (email).

University Publications and Resources

There are several sources of information, about Stanford in general and graduate student life, which will be very helpful to you if you know and consult them during your time here. All the publications below are online; some are in print, too, but the Web will be more current, and will offer links to other related sites of interest. Among the first documents to browse and to bookmark:

Stanford Bulletin: <https://www.stanford.edu/dept/registrar/bulletin>

Department-by-department listings of programs, courses, and degree requirements as well as University policies regarding academic life, degree requirements, etc. Published online in early- August.

Explore Courses: <https://explorecourses.stanford.edu/>

Lists days/time and location as well as instructor, units, etc. for the quarter's courses. For each course, check for pre-registration requirements, grading limitations, etc. The online version is updated nightly with room/time changes, etc.

Graduate Academic Policies and Procedures (GAP): <https://gap.stanford.edu/> University policies, requirements, and resources for Stanford graduate students in all schools, departments, and programs.

Registrar's Office: <https://studentaffairs.stanford.edu/registrar>

Important reference for academic policy information. Also, University forms for graduate degree progress and enrollment are listed under Publications and Forms, <https://www.stanford.edu/dept/registrar/shared/publications.htm>

Research Policy Handbook: <https://rph.stanford.edu/>

Policies relating to research assistantships, academic freedom, shared authorship, patents, etc.

About Computing at Stanford: <https://uit.stanford.edu/service/computing> Guide to campus computing systems, facilities, and support resources.

Stanford Directory: <https://stanfordwho.stanford.edu>

Directory info (address, phone, email) for students, faculty, and staff. Logon using your SUNetID and you'll have access to more information than the general public.

Other Offices at Stanford

Stanford provides a wide range of professional staff and facilities. Students should look for and take advantage of these campus resources:

Bechtel International Center (I-Center): an absolutely crucial office for international students! Orientation programs and other support services for international students; serves as a place for cultural exchange; liaison with U.S. Departments of Labor, Justice, State, etc. Visa status and SEVIS questions, requests for renewals, practical training approvals, etc. are all handled by the I-Center. <https://bechtel.stanford.edu/>

Their site for incoming students, <https://bechtel.stanford.edu/coming-stanford>, contains critical information about maintaining valid immigration status, helpful advice about maintaining your documents, as well as very useful orientation information. Written to accompany the I-Center Orientation events in September, this guide is a very useful introduction and reference material.

Vaden Student Health Service - 866 Campus Drive – 650-498-2336:

Medical, counseling and psychological services and education; student health insurance. A nurse is available during office hours to answer routine medical questions in person or by phone, and advice for urgent conditions is provided 24 hours a day by an on-call physician. Health promotion information is also available, and CAPS (Counseling and Psychological Services) provides individual, couples and group psychological counseling. <https://vaden.stanford.edu/>

Crisis Counseling at Vaden - 24 Hours, 650-723-3785:

A CAPS on-call clinician may be contacted for urgent situations at any time, including evenings and weekends. In an emergency, a clinician will speak with you within 20 minutes. In an urgent situation, a clinician will see you the same day. In either case, the on-call clinician will assess your situation. Later, you will be offered a regular appointment with this or another clinician.

Graduate Life Office (GLO) – 750 Escondido Rd. Suite 207 – 650-723-8222:

The Graduate Life Office works closely with students (both on and off campus) and with student groups in a variety of welcome and on-going programs. The GLO staff also works with individual students who need information or who may be experiencing personal difficulties. Staff members are knowledgeable about, and have access to, support and resources available throughout the University. <https://www.stanford.edu/group/glo/>

Stanford Career Education (BEAM) - 563 Salvatierra Walk – 650-723-3963: Career counseling, job listings, resource library, on-campus recruiting, workshops. <https://beam.stanford.edu/>

Vice Provost for Teaching and Learning – 408 Panama Mall:

VPTL's service mission is to help Stanford invent the future research university through teaching and learning innovation by supporting undergraduate, graduate, professional, and lifelong learning. <https://vptl.stanford.edu/>

Vice Provost for Graduate Education - 450 Serra Mall Building 310- 650-736-0775:

The VPGE office works collaboratively across the university to ensure that every graduate student receives the best possible educational experience. VPGE's initiatives and resources enrich students' academic experiences at Stanford by advancing diversity, preparing leaders, and positioning Stanford at the forefront of innovation in graduate education. <https://vpge.stanford.edu>

Office of Accessible Education (OAE) - 563 Salvatierra Walk – 650-723-1066:

Provides information, referrals, and services for students with physical and learning disabilities. A variety of services is available for students with long-term disabilities or illnesses, as well as those with short-term disabling conditions. The OAE staff, professionals, and students are committed to providing support and services which remove the barriers to full participation in university life. Students should contact the OAE for further information and/or as the first step in a disability-related request for accommodations, auxiliary aids, or other services related to their education or life at Stanford. <https://studentaffairs.stanford.edu/oea>

Funding Guidelines and Definitions

Graduate students at Stanford may receive funding from a variety of sources. University fellowships, research assistantships, and teaching assistantships are offered primarily to doctoral students. In some cases, master's students also may receive fellowships and assistantships. In addition, outside agencies

provide fellowships to many Stanford graduate students. Students without fellowships or assistantships, and those whose funding does not cover all of their costs, may need to use student loans, savings, other personal assets, a spouse's earnings, or parental support to meet their educational expenses.

Graduate financial support is largely controlled and administered by academic departments and programs. The department decides who receives these forms of financial support, and at what level the graduate student will be supported.

Estimated Graduate Student Expenses (Federal “Cost of Attendance” Budget)

The Financial Aid Office, in consultation with other Stanford offices, develops and publishes an annual budget as an estimate of graduate student educational and living expenses. Two budgets are produced annually, including estimated costs for single graduate students living on campus and living off campus. Estimated cost categories include tuition, housing, food, transportation, books/supplies, medical insurance and other personal expenses.

The annual estimated graduate student expense budget for on-campus students is published on the [Financial Aid Office](#) web site. This budget is intended to convey a reasonable expectation of the cost of attending Stanford University and of living in the area of the university.

This published budget is used for the following two purposes related to federal regulations:

- international applicants for graduate study use this budget to verify the necessary financial resources to request F-1 visa status, as required on the I-20 Request for Student F-1 Visa, Financial Resources Certification
- the Financial Aid Office uses this budget to determine eligibility for student loans (e.g., federal Perkins, Direct Subsidized and Unsubsidized, and Graduate PLUS) and federal

work- study appointments.

In addition, this annual budget also informs the process of setting annual minimum salaries for research and teaching assistantships at Stanford.

Fellowships

Fellowships are a form of graduate student support that typically includes a stipend to pay living expenses and tuition support. No employment is expected in return for a fellowship; it is awarded on a merit basis to assist a student in the pursuit of a degree (see further details: [Fellowships and Other Stipend Support](#)).

A "full fellowship" is defined as one that provides the same amount of support as a 50% FTE assistantship, at the [minimum salary level](#) established by Stanford University and providing the equivalent level of tuition support. Because full fellowships are intended to enable students to work exclusively on their studies, concurrent hourly employment is limited to eight hours per week.

Students on full fellowships may hold a concurrent research or teaching assistantship appointment up to a maximum of 25% with no additional hourly employment.

Fellowships may be provided by Stanford University, using central university, school or departmental sources of funds, or they may be provided through external funding sources. Fellowships from multiple sources may be combined to support a student, subject to the requirements of the individual fellowship program.

A "named fellowship" is an award of financial support defined programmatically and identified as a particular source of funding (e.g., Stanford Graduate Fellowships, Lieberman Fellowships, and other named school or departmental fellowships). Named fellowships are generally only available to matriculated Stanford graduate students.

Assistantships

Assistantships are a form of graduate student employment, earning a compensation package (including both salary and tuition allowance) for the performance of research or teaching services to the University as part of the student's academic and professional training and development.

Matriculated graduate students may be appointed as a Research Assistant (RA) or as one of the categories of Teaching Assistant (TA). See further details: [Assistantships](#).

Tuition Allowance

Tuition Allowance (TAL) is the tuition component of the assistantship compensation package. The cost of TAL is shared between University general funds and the school, department, and/or sponsored project funds providing the assistantship. TAL is paid for a full quarter (see further details: [Assistantships](#)).

Stipend

Fellowships typically provide a stipend, or a living allowance, to a student. Stipends are intended to provide financial support to the student while completing their education, they are processed through the Student Financial Services department, and they are normally paid to graduate students at the beginning of each quarter. Other one-time payments to students, e.g. honoraria-type

payments or payments to cover the expense of the student's books or supplies, are paid as stipends. Stipends are normally taxable income, but are not subjected to withholding except in the case of some international students. See further details: [tax information for students](#).

Salary

Assistantships pay a salary to the student, as compensation for services provided either in a teaching or research role. RAs and TAs receive a Stanford paycheck twice each month, on the same schedule as other university employees, and are subject to withholding of employment taxes with the exception of Social Security and Voluntary Disability Insurance. See further details: [tax information for students](#).

Hourly Employment

Graduate students may be employed and paid for work incidental to the student's course of study. Such employment is not considered an assistantship appointment and it generates no Tuition Allowance. Note that hourly employment for teaching or research services should not be used in lieu of a TA or RA appointment, where the work would otherwise qualify for assistantship compensation.

Hourly employment is processed through Payroll and not through GFS. U.S. students appointed to a 50% assistantship, or holding a full fellowship, are limited to an additional eight hours of hourly employment per week. Additional limits apply to international students (see further details: [Graduate Student Hourly Employment](#).)

Cardinal Care Subsidy

Enrolled graduate students with financial support (an assistantship or non-tuition fellowship), who are enrolled in Stanford's Cardinal Care insurance plan and who do not have outside support paying the full cost of their insurance, will receive a Cardinal Care subsidy payment from Stanford University as follows:

A subsidy in the amount of 50% of the cost of the quarterly premium will be applied to the student's university bill if the student has:

- an assistant appointment of 25% or more in the quarter
- a fellowship paying a non-tuition stipend at or above the minimum salary for a 25% assistantship (CA or RA) in the quarter.

A subsidy in the amount of 25% of the cost of the quarterly premium will be applied to the student's university bill if the student has:

- an assistantship appointment of less than 25% in the quarter
- a fellowship paying a non-tuition stipend at or above the minimum salary for a 10% assistantship (CA or RA) in the quarter.

To qualify for this insurance payment, the student's financial aid must be fully processed by the first payroll deadline of the quarter.

In Applied Physics, students are responsible for the other 50%.

Students not meeting the above criteria are not eligible for a Cardinal Care subsidy from Stanford University. Departments wishing to make a health insurance payment for their students may do so at any time using their own funds (see further details: [Fellowships and Other Stipend Support](#)).

Sick Leave

Enrolled graduate students who are employed by Stanford University, either with a Graduate Student Assistantship or Graduate Student Hourly employment are eligible for sick leave. Sick time provides a mechanism to pay student employees when they are unable to perform their scheduled work responsibilities due to illness or for other related reasons. Students with research or teaching assistantship appointments or with hourly employment, may use sick time for themselves or a family member: for absences due to illness; for preventive care or diagnoses, care, or treatment of an existing health condition; or for purposes related to domestic violence, sexual assaults, or stalking (see further details: [Student Employment and Assistantships](#)).

Payroll

Any student employee must meet several requirements before receiving a paycheck. You must be registered in any quarter in which you are paid (including summer), make suitable academic progress, and maintain good standing in the University. If this is your first employment by Stanford, you will also have to fill out several forms:

- An "I-9 Verification" for the University and INS. To complete:
 - **Permanent Residents:** an unexpired resident alien card
 - **F1/J1 visa holders:** unexpired passport and a current I-20 or DS-2019 form
 - **U.S. Citizens:** a U.S. Passport; or a Certificate of U.S. Citizenship or Naturalization; or two documents: a state-issued driver's license or I.D. card with photograph (to establish identity) AND an original Social Security card or U.S. birth certificate or unexpired INS Employment Authorization (to establish employment eligibility).
- We will have to see and photocopy these documents; and sign the I-9 form.
- A Tax Data form (to instruct the University how much tax to withhold from your salary)
- If you do not have a social security number, a copy of your application (and then a copy of the actual social security card, when you receive one).
- [W4/DE4](#)

Each of these forms only needs to be filled out at the start of employment, but if there is a gap in your employment by Stanford you should check to be sure they are still on file. International students may also qualify for "tax treaty" status: some countries have agreements with the U.S. which exempt their students from some or all taxes. To claim an exemption, the appropriate forms must be filed *annually*. Check with Payroll office.

Note: If any of these forms is missing or outdated, your paychecks will be withheld, most likely until the next pay period!

How and When You Are Paid

Assistantship or grader salaries are processed through Stanford's regular Payroll system. Assistants and graders are University employees.

Deductions: Federal, state, and social security taxes are withheld from salary checks. This withholding is reported like any other salary. Tuition amounts are not taxable or reported.

	<u>Appointment Span</u>	<u>First Check</u>	<u>Last Check</u>
Fall	Oct 1 - Dec 31	Oct 22	Jan 7
Winter	Jan 1 - Mar 31	Jan 22	Apr 7
Spring	Apr 1 - Jun 30	Apr 22	July 7
Summer	July 1 - Sept 30	July 22	Oct 7

Schedule: Tuition is automatically paid at the beginning of the quarter. Payroll checks come twice a month, to the department, or you may arrange for direct deposit to your bank. Work performed from the 1st to 15th of a month is paid on the 22nd; the second half of the month is paid on the 7th. Student appointments, which are established in terms of the academic year, always follow a quarterly schedule.

If Check Does Not Arrive on Time

First, examine your own status. Are you registered? Is there a Hold on your registration? If this is your first check, have you filed all the appropriate paperwork? If you changed jobs, the check might be either at AP or at your old department - look in both places. Then, come to the AP office to

report *either* that you have found and fixed one of the problems above and need a replacement check, or else to find out what is wrong. For an RA, the faculty member may have forgotten to initiate or renew your appointment for the quarter. In any event, we will try to find the problem and help you fix it.

Graduate Cash Advance

A cash advance is a University resource available to Graduate students to assist them with expenses before their graduate financial support is posted to their student account and/or TA/RA salary is paid. Graduate students can request an advance in the amount of \$1000, \$2000, or \$3000. The funds will arrive in their bank account generally within 3 business days. Once requested, a Cash Advance charge will be posted to the student's University bill. No interest or fees will be charged and, generally, the Cash Advance is not taxable.

The Cash Advance will be repaid automatically once the expected financial support is posted to the student's University account, or through [Payroll Deduction](#) (Housing & Fees or Pay All Charges options).

If financial support or salary is not provided, or is insufficient to repay the Cash Advance received, the student must repay the full Cash Advance or any necessary difference by making a

University bill payment via Stanford ePay by the due date stated on the University bill.

For eligibility information and request instructions: <https://sfs.stanford.edu/gradcashadvance>

Tax Information

The following is general information about taxes. Please note that the departmental administrative staff cannot assist you in this matter; we strongly recommend that you obtain professional help in the preparation of your taxes. International students should take advantage of the special tax seminars held at the International Center.

U.S. citizens and permanent residents who received fellowship stipend checks (quarterly, lump sums from which taxes were not withheld) will NOT receive W-2s. Your stipends are taxable but are not subject to withholding or reporting by Stanford. (Tuition is not taxable for degree seeking students. It is tax reportable for non-degree seeking students, e.g., post-docs.) (Non-resident students will receive a **1042-S** reporting this income for use in filing their federal tax return.) However, students may need to self-report a portion of this income on their tax returns. See IRS **Publication 970** for detailed information on tax reporting requirements for scholarships and fellowships.

In general, any ‘non-qualified’ scholarship/fellowship/grant funding that a degree-seeking student receives is tax reportable income. Funding applied to tuition and other enrollment fees that are required of all students is considered ‘qualified’ scholarship and is not tax reportable. Fees required for enrollment at Stanford are:

- Health Insurance
- ASSU
- Campus Health Services
- Document

Any funding that a student receives in excess of tuition and the required fees above should be self-reported on the student’s tax return. To review the funding that you received and the required fee charges, see your ‘View Financial History by Term’ in Axess. Fees are listed in the Charges section and funding that you received is listed in the Payments section.

The U.S. tax year is from January 1 – December 31. The first academic quarter of a tax year is winter quarter and the last is autumn quarter. For example, Tax Year 2018 is comprised of winter 17-18, spring 17-18, summer 17-18 and autumn 18-19.

Note: Wages received for graduate assistantships and/or hourly student work are reported on Form W-2.

International students who received fellowship stipends (quarterly lump sums) WERE subject to withholding and will receive a summary from the Controller's office in February or March. This will not be a W-2 (a report of wages) because you did not receive payroll salaries; instead, it will be a 1042-S listing your scholarship/fellowship & taxes withheld. International students from treaty countries who are claiming exemption from taxes based on the treaty will be receiving 1042S forms by March 15, and should report these earnings. This applies to either salary or stipend amounts.

If you do not receive the 1042-S form by March 15, you may contact the University Payroll Office at (723-2259). You will need to indicate your full name, SU ID number, social security number and current address.

Tax forms for international students to file at calendar year end with the IRS and California Franchise Tax Board include:

- Federal Form 1040-NR
- California State Form 540 (Non-U.S. tax residents are generally considered tax residents by the state of California for tax reporting purposes)

Students on all types of assistantships (RA-ships and TA-ships) receive W-2 forms from Payroll during the 2nd half of January. If you have not received your form by February 1, you may contact the University Payroll Office at (723-2259; they will issue a duplicate form. You will need to indicate your full name, SU ID number, social security number and current address. **Students must also submit an I-9 form to the Stanford payroll office before the 3rd year of the program.**

Matriculated (Degree-Seeking) Students:

Tuition Support

- Tax exempt

Salary (Assistantships)

- Taxable and subject to withholding (but not FICA, Medicare or VDI)
- Reported by Stanford on a W-2
- International students May qualify for federal "tax treaty exemption" if one exists between the US and their country (Form 8233, Payroll office). The exempt amount is reported on Form 1042S. Should file federal Form 1040NR (available at the International Center at tax time and online) each year, and probably CA Form 540 (also available online).

Stipend (Fellowships)

U.S. citizens, permanent residents, and resident aliens for tax purposes:

- The stipend is taxable; however, it is not subject to withholding or reporting by Stanford.
- Students are responsible for making any necessary estimated tax payments.
- Federal Form 1040-ES is available in the Bursar's office. California Form 540-ES is enclosed with the CA tax return (or call 1-800-338-0505).

International students:

- The stipend is subject to 14 percent withholding; however, students may be eligible for a tax exemption if their country has a tax treaty with the US (Form W-8Ben, Payroll office).
- Stipend and tax withholding are reported by Stanford on Form 1042-S (not W-2) and mailed to the student should file federal tax Form 1040NR and probably CA Form 540 at tax time each year.
- All fellowship recipients can reduce their taxable income by amounts spent on fees, books, supplies, and equipment (usually not computers) specifically required for courses; students should keep all receipts for these items.

For further tax information: <https://sfs.stanford.edu/taxes>

Health Insurance

As you explore options for health coverage, it is important to note that, as part of the university's requirement that all students have adequate health insurance coverage, **every registered student is automatically enrolled in Cardinal Care in his/her first registered quarter of each academic year.** This means that whatever you decide about coverage, you will need to take action in Axxess to either

- acknowledgement enrollment in Cardinal Care or
- waive coverage in Cardinal Care

Students must elect Cardinal Care insurance coverage to receive these benefits. Students may learn more about Cardinal Care benefits and coverage at <https://vaden.stanford.edu/insurance/cardinal-care-overview-and-benefits>. Should students receive support in any quarter from non-Department sources, the full cost of Cardinal Care might not be covered.

Health Service Fee

All students enrolled on the main Stanford campus are required to pay the [Campus Health Service Fee](#). The Campus Health Service Fee covers most of the services provided by Vaden Health Center, including primary care medical visits, psychological evaluation and short-term therapy at Counseling and Psychological Services (CAPS), and health and wellness programs. The services provided by Vaden Health Center are not covered by Cardinal Care or a student's private health insurance. For those students living outside of the Bay Area, there is an option to waive the Campus Health Service Fee.

The Campus Health Service Fee ("Health Fee") is a quarterly fee that is mandatory for all graduate students enrolled on the Stanford main campus. This fee, which is charged on the student bill each quarter that tuition is charged, covers many of the services provided at Vaden Health Center including primary care visits, CAPS evaluation and short-term therapy, and health and wellness programs. It is similar to fees found at many of Stanford's peer institutions, and it allows the university to maintain valuable health services for students.

Students are also required to maintain health insurance to cover the costs of specialty care, prescriptions, emergency care, inpatient care, and off-campus health services. This requirement can be met either by purchasing Cardinal Care (Stanford's student health insurance plan) or an alternative insurance plan that has comparable benefits to Cardinal Care.

For the **2019-20** academic year, the Health Fee is \$224 per quarter. The charge is included in the student's bill for each quarter that tuition is charged. The amount of the fee is subject to annual review and adjustment.

Care Provided at Vaden Health Center Covered by the Health Fee

Vaden Health Center offers a wide array of medical, mental health, and health promotion services on site, many of which are covered under the Health Fee. These include:

Primary Care Medical Services

- Medical appointments during weekday hours.
- Urgently needed care during weekend and evening hours.
- 24-hour telephone medical advice for urgent conditions.

- Confidential web-based messaging to Vaden clinicians.
- Web-based booking of weekday appointments.

Counseling and Psychological Services (CAPS)

- Psychological evaluation and short-term therapy.
- Initial psychiatric medication evaluation.
- 24-hour crisis services.

Health and Wellness Programs

- Nutrition counseling and education.
- Sexual health and relationship consultation and education.
- Peer health education programs and services.
- Health and wellness programs and events.

Care Provided at Vaden Health Center Not Covered by the Health Fee

The following services are provided at Vaden Health Center, but are not covered under the Health Fee. We offer these services on site as a convenience to our students, but in most instances, charges will apply. The charge that is applicable will depend on the type of health insurance coverage the student has; the payment due at the time of service will typically range from the amount of an insurance copay to the full cost of the service. In some instances, the student might be able to recapture some or all of the cost if the service is covered by his/her private health insurance.

- Pharmacy prescriptions and other medications
- Physical therapy treatment
- Travel Clinic visits and vaccinations
- Allergy, Immunization, and Injection Clinic services *
- Immunizations and tests to meet Stanford's entrance medical requirements *
- Long term therapy at Counseling and Psychological Services (CAPS)
- Psychiatric medication management at CAPS
- Physical examinations for employment, special programs, or other purposes
- Medical specialty consultations (those offered at Vaden Health Center currently include Dermatology, Optometry, Sports Medicine, and Eating Disorder Care)

* some exceptions apply

University Forms

The University Registrar's Office has several forms that apply to Graduate Students. The type of forms and descriptions are listed below. Visit the Registrar's website for soft copies of these forms at <https://registrar.stanford.edu/resources-and-help/student-forms>

Graduate Study and Programs

[Application for Ph.D. Minor \(pdf\)](#) Use this form to add a minor to an existing Ph.D. program of study.

[Request for Terminal Graduate Registration \(TGR\) Status \(pdf\)](#) TGR allows students to register at a reduced tuition rate while working on a dissertation, thesis, or department project. If you are eligible, this form must be completed and submitted to your department for approval.

[Application for Graduate Residency Credit \(pdf\)](#) Use this form to transfer a maximum of 45 eligible units into your Ph.D. program for graduate work done at another institution.

Enrollment and Tuition

[Request for Graduate Tuition Adjustment \(pdf\)](#) Submit this petition to request for one-time only tuition reduction during final quarter of degree program.

[Graduate Section Change Form \(pdf\)](#) This form must be submitted by a graduate or coterminal student who wishes to change sections of a course in which they are currently enrolled after the add deadline. Before the add deadline all section changes must be made in Axess.

[Petition to Change Course Enrollment \(Graduate and Coterminal Students\) \(pdf\)](#) Graduate or coterminal students should use this form to add course/s after the deadline, change unit total of course/s after the deadline, extend an Incomplete after the deadline, or repeat a course for a second time. Changes requested after the posted academic deadlines must demonstrate exceptional circumstances as they are an exception to Faculty Senate course enrollment policies. Before the deadlines, all enrollment changes must be made via Axess.

[Petition to Withdraw from a Course \(Graduate and Coterminal Students\) \(pdf\)](#) Graduate or coterminal students should use this form to withdraw from a course after the deadline. Changes after the posted academic deadlines must demonstrate exceptional circumstances as they are an exception to Faculty Senate course enrollment policies. Before the withdraw deadline, all course withdraws must be made via Axess.

[Leave of Absence Form \(pdf\)](#) A leave of absence is required for any term of the Academic Year (Summer terms excluded) for which a student does not wish to enroll in classes. For students with multiple degree programs or majors, note that leaves of absence are only granted for all programs and majors. Leaves are not be granted for more than one year at a time. A leave of absence from your program may not exceed a cumulative total of two years.

[Returning Graduate Student Request to Register \(pdf\)](#) Graduate students returning early from an approved leave of absence must file this form before the beginning of the quarter in which they wish to return.

[Request to Permanently Withdraw from Degree Program \(pdf\)](#) Use this form to permanently withdraw from your requested degree program on the date indicated. You are acknowledging that should you decide to return to the indicated degree program in the future, you will have to apply for reinstatement and pay the necessary reinstatement fee(s).

[Annulment of Summer Registration \(pdf\)](#) Use this form to withdraw from all of your summer courses and receive any applicable refund amounts, if eligible.

[Graduation Quarter Petition \(pdf\)](#) Intended for graduate students who have completed all course work, degree requirements, and residency requirements.

Candidacy

[Application for Extension of Candidacy or Master's Program \(pdf\)](#) If your candidacy or master's program has expired, this form should be completed and submitted to your department for approval.

[Application for Candidacy for Doctoral Degree \(pdf\)](#) Students are expected to be admitted for candidacy by the end of the second year of doctoral study. This form should be completed and submitted to your department for approval.

Dissertations

[Doctoral Dissertation Reading Committee Form \(pdf\)](#) Submitted by the student to initiate the department appointment of a Doctoral Dissertation Reading Committee.

[Petition for Non-Academic Council Doctoral Committee Members \(pdf\)](#) This petition is to be submitted to the department to request approval for doctoral dissertation reading committee and/or University oral examination committee members who are not members of the Stanford Academic Council.

[Change of Advisor or Reading Committee Member \(pdf\)](#) If changes are made in your reading committee, this form must be submitted to your department and approved by the chair.

[Doctoral Dissertation Agreement Form \(pdf\)](#) This form authorizes online publication of your doctoral dissertation and the separate abstract through ProQuest. It is mandatory for all doctoral dissertation submissions.

Oral Examinations

[University Oral Examination Form \(pdf\)](#) Once the examiners, date, and time for your oral examination have been established, this form must be submitted to your department for approval two weeks prior to the proposed date of your examination.

Graduation and Commencement

All applications to graduate (before the deadline or late applications) are now submitted only via [Axess](#). There is a \$50 fee for applying to graduate after the deadline.

[Diploma Distribution Change](#)

Submit this [Service Request](#) if you are submitting a Late Application to Graduate. Students who applied to graduate on time must change their diploma distribution through Axess.

[Diploma Name](#) Complete this [Service Request](#) if you have special accents or special characters that you want to appear on your diploma name.

[Withdrawal of Application to Graduate \(pdf\)](#) All withdrawals of applications to graduate (before the deadline or late applications) are now submitted only via [Axess](#).

Confidential Resources

- ❖ [Counseling and Psychological Services \(CAPS\)](#)
- ❖ [Confidential Support Team \(CST\)](#) - support for students impacted by sexual assault

and relationship violence

- ❖ [Office of the Ombuds](#)
- ❖ [Religious Life Office](#)
- ❖ [The Bridge](#) - peer counseling
- ❖ [Vaden Student Health Center](#)

Academic Support

- ❖ [English for Foreign Students](#) - language programs
- ❖ [Hume Center for Writing and Speaking](#) - support for all stages of the academic program through writing of the dissertation
- ❖ [Office of Accessible Education](#) (OAE) - support and services for students with disabilities
- ❖ [Vice Provost Graduate Education](#) (VPGE) - fellowships and other funding, professional development, and networking
- ❖ [Vice Provost Teaching & Learning](#) (VPTL) - resources to students as both learners and instructors, and academic skills coaching.
- ❖ [H&S Graduate & Undergraduate Studies](#) (GUS) - mediation and student academic grievances

Student Affairs

Students are welcome to make appointments with Student Services Center's specialists. If students have issues or need to understand their bill for example, or need further assistance with enrollment issues, they can make an appointment with specific specialists according to the first letter of their last name.

To make an appointment with a specialist: <https://studentservicescenter.stanford.edu/about/our-staff>

Web Resources

AXESS (** requires login with SUNet ID*)
<https://axess.sahr.stanford.edu/>

BECHTEL INTERNATIONAL CENTER
<https://bechtel.stanford.edu/>

BULLETIN/EXPLORE DEGREES
<https://exploreddegrees.stanford.edu/#text>

CAMPUS EATERIES
<http://visit.stanford.edu/activities/dining.html>

COMMUNITY HOUSING SERVICES
<https://rde.stanford.edu/studenthousing/community-housing>

COMMUNITY EMERGENCY INFORMATION

<https://emergency.stanford.edu/>

DEPARTMENT OF APPLIED PHYSICS

<https://web.stanford.edu/dept/app-physics/cgi-bin/>

DIRECTIONS FOR PREPARING DOCTORAL DISSERTATION AND THESIS

<https://registrar.stanford.edu/students/dissertation-and-thesis-submission>

ENVIRONMENTAL HEALTH & SAFETY

<https://ehs.stanford.edu/>

EXPLORE COURSES

<https://explorecourses.stanford.edu/>

GATEWAY TO FINANCIAL ACTIVITIES (FINGATE)

<http://web.stanford.edu/group/fms/fingate/>

GEBALLE LABORATORY FOR ADVANCED MATERIALS (GLAM)

<https://glam.stanford.edu/>

GINZTON LABORATORY

<https://ginzton.stanford.edu/>

GRADUATE LIFE OFFICE (GLO)

<https://glo.stanford.edu/>

GRADUATE STUDENTS IN APPLIED PHYSICS AND PHYSICS (GSAPP)

<http://web.stanford.edu/group/gsappp/>

HANSEN EXPERIMENTAL PHYSICS LAB (HEPL)

<https://hepl.stanford.edu/>

HUME WRITING AND SPEAKING CENTER RESOURCES FOR GRADUATE STUDENTS

<https://undergrad.stanford.edu/tutoring-support/hume-center/writing/graduate-students>

LIBRARIES

<https://library.stanford.edu/>

MAPS & DIRECTIONS

<http://visit.stanford.edu/plan/index.html>

PULSE INSTITUTE FOR ULTRAFAST ENERGY SCIENCE

<https://ultrafast.stanford.edu/>

REGISTRAR'S OFFICE

<https://registrar.stanford.edu/>

SIMPLE ENROLL

<https://registrar.stanford.edu/resources-and-help/axess-students/how-use-simpleenroll>

SLAC NATIONAL ACCELERATOR LABORATORY

<https://www6.slac.stanford.edu/>

STANFORD INSTITUTE FOR MATERIALS AND ENERGY SCIENCE (SIMES)

<http://simes.stanford.edu/>

STANFORD INSTITUTE FOR THEORETICAL PHYSICS (SITP)

<https://sitp.stanford.edu/>

STANFORD SYNCHROTRON RADIATION LIGHTSOURCE (SSRL)

<https://www-ssrl.slac.stanford.edu/content/>

STANFORDWHO

<https://stanford.rimeto.io/>

STANFORDYOU (* requires login with SUNet ID)

<https://stanfordyou.stanford.edu/main/SYApp>

STANFORD UNIVERSITY GRADUATE ACADEMIC POLICIES & PROCEDURES (GAP)

<https://gap.stanford.edu/>

STUDENT FINANCIAL SERVICES

<https://sfs.stanford.edu/>

STUDENT HOUSING

<https://rde.stanford.edu/studenthousing/>

SYLLABUS

<https://syllabus.stanford.edu/syllabus/#/mainSyllabus>

VICE PROVOST FOR TEACHING AND LEARNING (VPTL)

<https://vptl.stanford.edu/>

Fellowships & Scholarships

BIO-X FELLOWSHIP

<https://biox.stanford.edu/research/phd-fellows>

DOE OFFICE OF SCIENCE GRADUATE FELLOWSHIP (DOE CSGF)

<https://www.energy.gov/science/wdts/workforce-development-teachers-and-scientists>

EDGE FELLOWSHIP

<https://vpge.stanford.edu/fellowships-funding/enhancing-diversity-graduate>

ENVIRONMENTAL PROTECTION AGENCY (EPA)

<https://www.epa.gov/>

FORD FELLOWSHIP

<http://sites.nationalacademies.org/PGA/FordFellowships/index.htm>

FULBRIGHT-HAYS

<https://www2.ed.gov/programs/iegpsgpa/index.html>

Gerald J. Lieberman Fellowship (* *BY NOMINATION ONLY*)

<https://vpge.stanford.edu/fellowships-funding/gerald-j-lieberman-fellowship>

HERTZ FOUNDATION

<https://hertzfdn.org/category/scholarships/>

HOWARD HUGHES MEDICAL INSTITUTE (HHMI)

<https://www.hhmi.org/programs>

KNIGHT HENNESSEY FELLOWSHIP

<https://knight-hennessy.stanford.edu/program>

NASA EARTH AND SPACE SCIENCE FELLOWSHIP (NESSF)

<https://science.nasa.gov/researchers/sara/grant-stats/nasa-earth-and-space-science-fellowship-nessf-selections>

NASA SPACE TECHNOLOGY RESEARCH FELLOWSHIP (NSTRF)

<https://nspires.nasaprs.com/external/solicitations/solicitations.do?method=open&stack=push>

NATIONAL DEFENSE SCIENCE & ENGINEERING GRADUATE FELLOWSHIP (NDSEG)

<http://ndseg.asee.org/>

NATIONAL PHYSICAL SCIENCE CONSORTIUM (NPSC)

<http://www.npsc.org/Applicants/Applicants/fellowshipinfo.html>

NATIONAL SCIENCE FOUNDATION GRADUATE RESEARCH FELLOWSHIP PROGRAM (NSF GRFP)

<https://www.research.gov/grfp/Login.do>

STANFORD GRADUATE FELLOWSHIP (SGF) (* *BY NOMINATION ONLY*)

<https://vpge.stanford.edu/fellowships-funding/sgf>

STANFORD OFFICE OF THE VICE PROVOST FOR GRADUATE EDUCATION (VPGE) FELLOWSHIPS (* *ALL BUT DARE AND SIGF ARE BY NOMINATION ONLY*)

<https://vpge.stanford.edu/fellowships-funding/all>