Courses offered by the Department of Geophysics are listed under the subject code GEOPHYS on the Stanford Bulletin’s ExploreCourses website.

Geophysics is the branch of Earth sciences which explores and analyzes active processes of the Earth through physical measurement. The undergraduate and graduate programs are designed to provide a background of fundamentals in science, and courses to coordinate these fundamentals with the principles of geophysics. The program leading to the Bachelor of Science (B.S.) in Geophysics permits many electives and a high degree of flexibility for each student. Graduate programs provide specialized training for professional work in resource exploration, research, and education, and lead to the degrees of Master of Science and Doctor of Philosophy.

The Geophysics Department is housed in the Ruth Wattis Mitchell Earth Sciences Building. It has numerous research facilities, among which are a state-of-the-art broadband seismic recording station, high pressure and temperature rock properties and rock deformation laboratories, various instruments for field measurements including seismic recorders, nine dual frequency GPS receivers, and field equipment for measuring in-situ stress at great depth. Current research activities include crustal deformation, earthquake seismology and earthquake mechanics, reflection, refraction, and tomographic seismology, rock mechanics, rock physics, seismic studies of the continental lithosphere, remote sensing, environmental geophysics, and synthetic aperture radar studies.

Mission of the Undergraduate Program in Geophysics

The mission of the undergraduate program in Geophysics is to expose students to a broad spectrum of geophysics, including resource exploration, environmental geophysics, seismology, and tectonics. Students in the major obtain a solid foundation in the essentials of mathematics, physics, and geology, and build upon that foundation with advanced course work in geophysics to develop the in-depth knowledge they need to pursue advanced graduate study and professional careers in government or the private sector.

Learning Outcomes (Undergraduate)

The Geophysics Department expects its undergraduate majors to demonstrate certain learning outcomes. These learning outcomes are used to evaluate students' progress, as well as the undergraduate program itself. Students are expected to:

1. understand the physics and geology that form the basis for geophysical observation and measurement.
2. understand Earth structure and evolution.
3. identify the physical processes governing the behavior of common geophysical systems.
4. be able to explain the principles of applying geophysical methods to societally relevant problems, including natural hazards, resource exploration and management, and environmental issues.
5. be able to quantitatively describe the behavior of natural systems and the principles of geophysical measurement with physics-based mathematical models.
6. investigate these models by solving the governing equations with a combination of analytical and computational methods.
7. make their own observations with a variety of geophysical instruments, and reduce, model, and interpret their data and uncertainties.
8. effectively communicate their scientific knowledge through written and oral presentations.
9. be able to interpret and evaluate the published literature and oral and poster presentations at national meetings.

Graduate Programs in Geophysics

University requirements for the M.S. and Ph.D. are described in the "Graduate Degrees (http://www.stanford.edu/dept/registrar/bulletin/4901.htm)" section of this bulletin. Lecture course units applied to graduate degree program requirements must be taken for a letter grade if the course is offered for a letter grade.

Learning Outcomes (Graduate)

The objective of the graduate program in Geophysics is to prepare students to be leaders in the geophysics industry, academia, and research organizations through completion of fundamental courses in their major field and related sciences, as well as through independent research. Students are expected to:

1. apply skills developed in fundamental courses to geophysical problems.
2. research, analyze, and synthesize solutions to an original and contemporary geophysics problem.
3. work independently and as part of a team to develop and improve geophysics solutions.
4. apply written, visual, and oral presentation skills to communicate scientific knowledge.
5. master's students are expected to develop an in-depth technical understanding of geophysics problems at an advanced level.
6. doctoral students are expected to complete a scientific investigation that is significant, challenging and original.

COVID-19-Related Degree Requirement Changes

For information on how Geophysics degree requirements have been affected by the pandemic, see the "COVID-19 Policies tab (p. 5)" in this section of this bulletin. For University-wide policy changes related to the pandemic, see the "COVID-19 and Academic Continuity (http://exploredegrees.stanford.edu/covid-19-policy-changes)" section of this bulletin.

Bachelor of Science in Geophysics

Undergraduates in Geophysics are exposed to a broad spectrum of topics in the Earth sciences that describe and predict our planet's evolution. Majors are built on a solid foundation of mathematics and natural sciences with advanced coursework in geophysics to develop the in-depth knowledge needed to pursue advanced graduate study and professional careers in government or the private sector.

A primary focus of the Geophysics major, both as a primary and secondary major, is the senior research project. Students work closely with a faculty mentor to complete an original research paper that can result in published literature. Students selecting Geophysics as a primary major generally pursue specialized skills in areas such as resource exploration, environmental geophysics, seismology, or tectonics. For students pursuing Geophysics as a secondary major, the department encourages a multidisciplinary approach involving the application of broad knowledge to achieve a better understanding of the Earth and its future.

The following courses are required for the B.S. degree in Geophysics. A written report on original research or an honors thesis is also required.
through participation in and GEOPHYS 199 Senior Seminar: Issues in Earth Sciences in Autumn Quarter of the senior year.

**Geophysics Core Courses**

Students must take all of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOPHYS 101</td>
<td>3</td>
</tr>
<tr>
<td>GEOPHYS 110</td>
<td>3</td>
</tr>
<tr>
<td>GEOPHYS 120</td>
<td>3</td>
</tr>
<tr>
<td>GEOPHYS 162</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Units: 12

**Geophysics Research**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOPHYS 199</td>
<td>3</td>
</tr>
<tr>
<td>GEOPHYS 196</td>
<td>9</td>
</tr>
</tbody>
</table>

Total Units: 12

**Supporting Mathematics Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CME 100</td>
<td>5</td>
</tr>
<tr>
<td>or MATH 51</td>
<td></td>
</tr>
<tr>
<td>or MATH 52</td>
<td></td>
</tr>
<tr>
<td>CME 102</td>
<td>5</td>
</tr>
<tr>
<td>or MATH 53</td>
<td></td>
</tr>
<tr>
<td>CME 104</td>
<td>5</td>
</tr>
<tr>
<td>or MATH 131P</td>
<td></td>
</tr>
</tbody>
</table>

Total Units: 15

**Supporting Physics Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYSICS 41</td>
<td>4</td>
</tr>
<tr>
<td>or PHYSICS 61</td>
<td></td>
</tr>
<tr>
<td>PHYSICS 43</td>
<td>4</td>
</tr>
<tr>
<td>or PHYSICS 63</td>
<td></td>
</tr>
<tr>
<td>PHYSICS 45</td>
<td>4</td>
</tr>
<tr>
<td>or PHYSICS 65</td>
<td></td>
</tr>
</tbody>
</table>

Total Units: 12

**Supporting Electives (18 units)**

18 units of geophysics-relevant upper-level electives to be approved by the Director of Undergraduate Studies and selected from offerings across the University including, but not limited to courses in mathematics, Earth and other natural sciences, and engineering.

Substitutions allowed with the consent of Director of Undergraduate Studies; classes to be taken for a letter grade if offered, grade ‘C’ or better.

**Honors Program**

The department offers a program leading to the B.S. degree in Geophysics with honors. The guidelines are:

1. Select a research project, either theoretical, field, or experimental, that has the approval of an adviser.
2. Submit a proposal to the department, which decides on its suitability as an honors project. Necessary forms are in the department office.
3. Course credit for the project is assigned by the adviser within the framework of GEOPHYS 198 Honors Program.
4. The decision whether a given independent study project does or does not merit an award of honors is made jointly by the department and the student’s adviser. This decision is based on the quality of both the honors work and the student's other work in Earth Sciences.
5. The work done on the honors program cannot be used as a substitute for regularly required courses.

**COVID-19-Related Degree Requirement Changes**

For information on how Geophysics degree requirements have been affected by the pandemic, see the "COVID-19 Policies tab (p. 5)" in this section of this bulletin. For University-wide policy changes related to the pandemic, see the "COVID-19 and Academic Continuity (http://exploredegrees.stanford.edu/covid-19-policy-changes)" section of this bulletin.

**Minor in Geophysics**

The Geophysics minor provides students with a general knowledge of geophysics. The minor consists of:

- Four courses in Geophysics numbered 100 or higher
- Supporting math: CME 100 Vector Calculus for Engineers or MATH 51 Linear Algebra, Multivariable Calculus, and Modern Applications
- Supporting physics: PHYSICS 21 Mechanics, Fluids, and Heat or PHYSICS 41 Mechanics and Special Relativity, PHYSICS 23 Electricity, Magnetism, and Waves or PHYSICS 61, PHYSICS 25 Modern Physics (or PHYSICS 45 or PHYSICS 65).

**COVID-19-Related Degree Requirement Changes**

For information on how Geophysics degree requirements have been affected by the pandemic, see the "COVID-19 Policies tab (p. 5)" in this section of this bulletin. For University-wide policy changes related to the pandemic, see the "COVID-19 and Academic Continuity (http://exploredegrees.stanford.edu/covid-19-policy-changes)" section of this bulletin.

**Coterminal Master of Science Program in Geophysics**

The department offers a coterminal M.S. degree for students wishing to obtain more specialized training in Geophysics than is normally possible during study for the B.S. degree alone. A M.S. degree should be considered as the professional degree in Geophysics and is aimed at students wishing to work in a related industry, or students desiring a more focused academic study in the field than the B.S. program allows.

The coterminal M.S. degree in Geophysics is offered in conjunction with any relevant undergraduate program at Stanford. Geophysics students often enter the department with degrees in Earth Sciences, Mathematics, Physics, Chemistry, or other natural science or engineering fields. Any of these are suitable for the coterminal Geophysics program, and students interested are encouraged to discuss their own background with a Geophysics faculty member.
Admission
To apply for admission to the Geophysics coterminal M.S. program, students must submit the Coterminal Online Application (https://applyweb.stanford.edu/coterm), including submission of a transcript, a statement of purpose, and at least two letters of recommendation. Applications with a letter of recommendation from a Geophysics faculty member are generally considered the strongest. Additional letters from other academic or work-related persons also strengthen the application. There are no specific GPA requirements for entry, but the department looks for proven performance in a rigorous undergraduate curriculum as a prerequisite for admission.

Undergraduates with at least junior-level standing may apply, and applications should be submitted by the Autumn Quarter of the senior year.

The graduation requirements to obtain the degree are identical to those for the regular Geophysics master’s degree.

University Coterminal Requirements
Coterminal master’s degree candidates are expected to complete all master’s degree requirements as described in this bulletin. University requirements for the coterminal master’s degree are described in the “Coterminal Master’s Program (http://exploredegrees.stanford.edu/cotermdegrees)” section. University requirements for the master’s degree are described in the “Graduate Degrees (http://exploredegrees.stanford.edu/graduatedegrees/#masterstext)” section of this bulletin.

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 during or after the first quarter of the sophomore year are eligible for consideration for transfer to the graduate career; the timing of the first graduate quarter is not a factor. 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 adviser 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.

Master of Science in Geophysics
Objectives
To enhance the student’s training for professional work in geophysics through the completion of fundamental courses, both in the major fields and in related sciences, and to begin independent work and specialization.

Degree Requirements
The candidate must complete 45 units from the following groups of courses:

1. Complete 15 units of Geophysics lecture courses with at least 9 units numbered 200 or higher.
2. Complete 9 units of non-Geophysics lecture courses in the School of Earth, Energy, and Environmental Sciences, with at least 3 units numbered 200 level or higher.
3. Complete 1-4 electives selected from courses numbered 100 or higher from mathematics, chemistry, engineering, physics, relevant biology, computer science, ecology, hydrology, or within the School of Earth, Energy, and Environmental Sciences. At least one course must be numbered 200 or higher. (GEOPHYS 201 excluded.)
4. Enroll for at least three quarters of research seminar (GEOPHYS 385 series).
5. At least 6, but not more than 15, of the 45 units must be earned by enrollment in GEOPHYS 400 Research in Geophysics for independent work on a research problem resulting in a written report accepted and archived by the candidate’s faculty. A summer internship is encouraged as a venue for research, but no academic credit is given.
6. Submit a program proposal for approval by a faculty adviser in the first quarter of enrollment.
7. Each candidate must present and defend the results of his or her research at a public oral presentation attended by at least two faculty members, and turn in a thesis/report to the adviser.
8. Students are required to attend department seminars.
9. Required courses used to fulfill requirements for the M.S. in Geophysics must be lecture courses (component LEC) taken for a letter grade (unless S/NC is the only option offered).

COVID-19-Related Degree Requirement Changes
For information on how Geophysics degree requirements have been affected by the pandemic, see the "COVID-19 Policies tab (p. 5)” in this section of this bulletin. For University-wide policy changes related to the pandemic, see the "COVID-19 and Academic Continuity (http://exploredegrees.stanford.edu/covid-19-policy-changes)” section of this bulletin.

Doctor of Philosophy in Geophysics
Objectives
The Ph.D. degree is conferred upon evidence of high attainment in Geophysics and the ability to conduct an independent investigation and present the results of such research.

Transfer Credit
An incoming student with a relevant master of science degree may apply for a departmental waiver of up to 12 units of the 30 lecture units required for the Ph.D. degree, for certain courses as approved by the departmental graduate faculty adviser. Credit for courses generally requires that students identify an equivalent Stanford course and obtain the signature of the Stanford faculty responsible for that course, stating its equivalence.

Requirements for the Degree
A minimum of 135 units of graduate study at Stanford must be satisfactorily completed. Required courses used to fulfill requirements for the Ph.D. in Geophysics must be lecture courses (component LEC) taken for a letter grade (unless S/NC is the only option offered). Geophysics courses used to fulfill requirements for the Ph.D. must be taught by Geophysics faculty (or senior academic staff if supervised by a faculty member). Lecture courses on geophysical topics taught by visiting faculty can only be counted as fulfilling a Geophysics requirement if approved in advance by the department Chair and the Director of Graduate Studies. Students are required to attend the department seminars and to complete sufficient units of independent work on a research problem to meet the 135-unit University requirement. 12 units must be met by participation in the GEOPHYS 385 series, or equivalent series in other departments with the approval of the adviser and graduate coordinator. Students are encouraged to participate in the GEOPHYS...
The purpose of the second research project is to add breadth to Ph.D. studies. Exceptions allowing for second project advisers who are not Stanford Geophysics faculty must be approved by both the research adviser and the Director of Graduate Studies.

Most students are expected to complete the second research project as part of their Ph.D. studies. However, the department allows an option of meeting academic breadth requirements through additional focused course work; see the Geophysics [web site](https://pangea.stanford.edu/departments/geophysics/academics/graduate-program/graduation-requirements) for further information on program requirements and the coursework breadth option.

The department expects most students to demonstrate academic breadth and ability in multiple areas by completing a second research project as described above. However, in some cases, the department allows an alternative path consisting of focused coursework. A student selecting this option must complete the Coursework Breadth Option Petition which must be approved by the adviser and Director of Graduate Studies. Requirements for this option are:

- The option must include 15 units of graded (or Instructor-mandated S/NC) lecture courses at the 200 level or higher.
- The courses chosen must be relevant to study in Geophysics, and be approved as such by the adviser and Director of Graduate Studies.
- Completion of the second Project form and signature of the research adviser and the Director of Graduate Studies.
- Students cannot be advanced to TGR status or receive the Ph.D. degree before completion of the second project.

**Course Work Breadth/Multiple Area Option**

The option must include 15 units of graded (or Instructor-mandated S/NC) lecture courses at the 200 level or higher.

- The courses chosen must be relevant to study in Geophysics, and be approved as such by the adviser and Director of Graduate Studies.
- Completion of the second Project form and signature of the research adviser and the Director of Graduate Studies.
- Students cannot be advanced to TGR status or receive the Ph.D. degree before completion of the second project.

**Requirements**

- The student must discuss potential second project topics and advisers with the committee at the first annual review (fourth academic quarter).
- The Ph.D. qualifying exam can include a (~5 page) second project proposal and second project presentation but is not required. A completed second project or a second project proposal (~5 pages) must be presented at the time of the first annual review following the qualifying exam.
- If the project has been completed (or is close to completion), evidence of this must be given at the time of the qualifying exam or annual review; e.g., a copy of the paper, the poster, or the submitted conference abstract.
- Students register for 15 graded research units with their second project adviser, or with the Director of Graduate Studies if the adviser is outside Stanford. The final grade will be submitted on completion of a written report documenting the project.
- The completion of the second Project form and signature of the second-project adviser is a graduation requirement.
- Students cannot be advanced to TGR status or receive the Ph.D. degree before completion of the second project.

**Ph.D. Department Examination Requirement**

1. One research proposal (10-20 pages) with a completed component that outlines a plan of research for 2-3 years
2. An oral presentation with the student’s advising committee on both the research proposal (~30-40 min) with questions by the committee constituting the qualifying exam.
3. The exam can include a (~5 page) second project proposal and second project presentation but is not required. A completed second project or a second project proposal (~5 pages) must be presented at the time of the first annual review following the qualifying exam.

**Second Project**

The purpose of the second research project is to add breadth to Ph.D. studies and give the student the opportunity, ability and confidence to carry out research in multiple areas.

**Description/Scope:**
The second project should stand alone as a separate piece of work from the primary research project.

- The second project must be in Geophysics or a closely related discipline
- The topic must be substantially different from the topic of the Ph.D. thesis; i.e., it should not be the same method applied to a different problem, or a different method applied to the same problem.
- The second project should be supervised by a Stanford Geophysics faculty member (Academic Council or research faculty) who does not serve as the primary research adviser, and who must be in a separate research group. Exceptions allowing for second project advisers who are not Stanford Geophysics faculty must be approved by both the research adviser and the Director of Graduate Studies.

**Course requirements**

1. **Geophysics:** 12 units, lecture courses numbered 200 and above, from 4 different Geophysics faculty with different research specializations. These units cannot be waived.
2. **Additional Geophysics:** 3 units, lecture courses numbered 120 and above
3. **School of Earth, Energy & Environmental Sciences (non-Geophysics):** 3 units, lecture courses numbered 100 or above
4. **Mathematics (numbered 100 or above), Science, and Engineering (non-School of Earth, Energy & Environmental Sciences):** 6 units, lecture courses numbered 200 or above
5. Any of the above categories: 6 units, lecture courses numbered 200 or above
6. Total required units: 30 units.

**The Coursework Breadth/Multiple Area Option**

The department expects most students to demonstrate academic breadth and ability in multiple areas by completing a second research project as described above. However, in some cases, the department allows an alternative path consisting of focused coursework. A student selecting this option must complete the Coursework Breadth Option Petition which must be approved by the adviser and Director of Graduate Studies. Requirements for this option are:

- The option must include 15 units of graded (or Instructor-mandated S/NC) lecture courses at the 200 level or higher.
- The courses chosen must be relevant to study in Geophysics, and be approved as such by the adviser and Director of Graduate Studies.
- At least 6 units must be from the Department of Geophysics. The remaining courses may be chosen from any department.
- The Coursework Breadth Option Petition must state the classes to be taken, and explain how these classes provide breadth or a second focus area to the student’s course of study and how they are important to the student’s career goals.
- The courses cannot be used to meet any other degree requirements at Stanford.
- No transfer credit may be used to meet this requirement.
• The proposed set of anticipated courses must be evaluated by the student's committee at the first annual review, and approved again at the time of the qualifying exam.
• Students cannot be advanced to TGR status or receive the Ph.D. degree until completion of the 15 additional units.

Exceptions
Any exceptions to the above rules must be approved and signed by the student's adviser, by all members of the student's academic committee, by the Director of Graduate Studies and Chair.

COVID-19 Policy Changes to Degree Requirements

On this page: Winter Quarter (p. 5) • Spring Quarter (p. 5) • Doctoral Programs (p. 5) (if applicable)

For a complete overview of academic policy changes related to the COVID-19 pandemic, see the "COVID-19 and Academic Continuity (http://exploredegrees.stanford.edu/covid-19-policy-changes)” section of this bulletin.

In response to the COVID-19 pandemic in 2020, Stanford University made a number of emergency changes to policies and procedures that impacted Winter and Spring quarters 2019-20. Those changes, as they relate to degree programs, are compiled on this page. These changes reflect the disruption that students and instructors experienced when the University transitioned to online learning on March 9, 2020, in addition to the disruption to the Stanford community caused by the pandemic itself.

Winter Quarter 2019-20

• University-wide Winter Quarter Academic Changes (http://exploredegrees.stanford.edu/covid-19-policy-changes/#winterquarteracademicchangepstext)

The Committee on Undergraduate Standards and Policy (C-USP) and the Committee on Graduate Studies (C-GS) approved an exception for Winter Quarter 2019-20 to permit students to request late class withdrawals and/or changes to class grading basis to CR/NC (for those classes that had CR/NC as an option).

Undergraduate Degree Requirements
Grading Requirements
The Department of Geophysics did not make any changes to undergraduate degree grade requirements for classes taken in Winter Quarter 2019-20.

Other Requirements
If a student has difficulty completing an undergraduate degree requirement due to the COVID-19 pandemic, (e.g., a study abroad requirement, a laboratory research requirement), the student should consult with the Director of Undergraduate Studies to identify academic options to fulfill degree requirements.

Graduate Degree Requirements
Grading Requirements
The Department of Geophysics did not make any changes to graduate degree grade requirements for classes taken in Winter Quarter 2019-20.

Other Requirements
If a student has difficulty completing a graduate degree requirement due to the COVID-19 pandemic, (e.g., a study abroad requirement, a laboratory research requirement), the student should consult with the Director of Graduate Studies to identify academic options to fulfill degree requirements.

Spring Quarter 2019-20

• University-wide Spring Quarter Academic Changes (http://exploredegrees.stanford.edu/covid-19-policy-changes/#winterquarteracademicchangepstext)

The Faculty Senate approved a policy requiring that all undergraduate and graduate classes in Spring Quarter 2019-20 be offered only on the 'S/NC' (Satisfactory/No Credit) grading basis.

Undergraduate Degree Requirements
Grading Requirements
The Department of Geophysics counts any Spring Quarter 2019-20 class in which the student received a final grade of 'S' towards undergraduate degree requirements that otherwise require a letter grade.

Other Requirements
If a student has difficulty completing an undergraduate degree requirement due to the COVID-19 pandemic, (e.g., a study abroad requirement, a laboratory research requirement), the student should consult with the Director of Undergraduate Studies to identify academic options to fulfill degree requirements.

Graduate Degree Requirements
Grading Requirements
The Department of Geophysics counts any Spring Quarter 2019-20 class in which the student received a final grade of 'S' towards graduate degree requirements that otherwise require a letter grade.

If a student has difficulty completing a graduate degree requirement due to the COVID-19 pandemic, (e.g., a study abroad requirement, a laboratory research requirement), the student should consult with the Director of Graduate Studies to identify academic options to fulfill degree requirements.

Doctoral Programs
The Faculty Senate confirmed that doctoral programs have discretion to delay candidacy decisions through the end of Autumn Quarter 2020-21. It also confirmed that students have the option to defer the candidacy process (e.g., qualifying exams) to Autumn Quarter 2020-21 without penalty.

The Department of Geophysics recommends that all students discuss the candidacy process with their advisors to identify whether the current circumstances suggest a need to defer candidacy to Autumn Quarter 2020.

Graduate Advising Expectations
The Department of Geophysics is committed to providing academic advising in support of graduate student scholarly and professional development. For a statement of University policy on graduate advising, see the "Graduate Advising (http://exploredegrees.stanford.edu/graduatedegree/#advisingandcredentialstext)” section of this bulletin.

Minimum Advising Expectations for the Department of Geophysics

1. Each adviser meets with each advisee in Autumn or Winter quarter, beginning in the advisee's first year, to develop/update a document entitled the "expectations agreement" that records the agreed upon approach to the following for each individual advisee:

Stanford Bulletin 2019-20
• Courses: the process and responsibility for selecting courses
• Thesis topic: the process and responsibility for selecting the topic
• Members of advising committee: the process and responsibility for selection
• Meetings of adviser and advisee: structure and frequency
• Conducting the research: the level of independence and progress expected, the involvement of the adviser (level of participation, nature of oversight), involvement of other collaborators (both inside and outside of research group)
• Thesis content, including expectations with respect to publications
• Writing of publications: style of interaction, policy on co-authorship, publication costs
• Conference travel/presentations: who attends/presents, frequency, financial support
• Funding (stipend, tuition, research costs): source, responsibilities, requirements for ongoing support
• In-the-office hours
• Vacations and other absences
• Expectations for Summer Quarter
• Preparing for career interests, plans after Stanford

The document, signed by both the adviser and advisee, is submitted to the Assistant Director of Student Services. If the adviser-advisee discussion would benefit from the involvement of an additional person, either the adviser or advisee can request the presence of a faculty or staff member of the school.

The expectations agreement is reviewed by the Assistant Director of Student Services and the Director of Graduate Studies, with follow-up as needed.

If there is change in adviser, the expectations agreement must be completed with the new adviser within the first quarter after the change.

2. A one-hour annual review, focused on academic progress, is held every year; in the first year this is deferred to Autumn of the second year. This meeting includes the advisee, the adviser, and at least two other faculty. Time is designated in every annual review to review the expectations agreement, circulated in advance to all those in attendance at the review.

At any time, a student with questions or concerns can approach any one of the following individuals in the school:

• Other faculty members of advisory committee
• Assistant Director of Student Services in their home department (Rachael Madison in Geophysics) or program
• Director of Graduate Studies in their home department (Jerry Harris in Geophysics) or another department
• Associate Chair for Diversity and Inclusion (Eric Dunham in Geophysics)
• Department Chair (Biondo Biondi in Geophysics)
• Alyssa Ferree, Assistant Dean of Student Services
• Robyn Dunbar, Associate Dean for Educational Affairs
• Sue Crutcher, Associate Dean for Human Resources and Faculty Affairs

Chair: Biondo Biondi
Associate Chair: Howard Zebker
Director of Graduate Studies: Jerry Harris

Professors: Greg Beroza, Biondo Biondi, Jerry M. Harris, Simon Klemperer, Rosemary J. Knight, Paul Segall, Norman H. Sleep, Howard Zebker,* Mark D. Zoback

Associate Professor: Eric Dunham
Assistant Professors: Lucia Gualtieri, Jenny Suckale, Dustin Schroeder, Sonia Tikoo-Schantz, Tiziana Vanorio
Professor (Research): William Ellsworth
Emeriti: Jon Claerbout, Robert Kovach, Gerald M. Mavko, Amos Nur, Jerry Harris
Courtesy Professors: Stephan A. Graham, Wendy Mao, Tapan Mukerji, Alexandra Konings

* Joint appointment with Electrical Engineering