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Sample BS and BA advising sheets

The University of Hawaii at Manoa is an equal opportunity/affirmative action institution and is committed to a policy of nondiscrimination on the bases of race, sex, age, religion, color, national origin, ancestry, disability, marital status, arrest and court record, sexual orientation, and veteran status. This policy covers admission and access to, and participation, treatment and employment in the University's programs, activities, and services. For more information on equal opportunity and affirmative action policies and complaint procedures, contact:

Students: Vice Chancellor for Students, 956-3290 (V/T)
Students with Disabilities: KOKUA Program Director, 956-7511 (V/T)
INTRODUCTION

GEOLOGY & GEOPHYSICS

The geosciences are central to the scientific study of the Earth and other bodies in our solar system. The scope of geosciences is extremely broad. Geology and geophysics tend to focus primarily on the solid, rocky portions of the planets (including the Earth), but have important ties to meteorology and oceanography. The Earth and many of the other planets are dynamic. Geoscientists study both the internal and surface changes of these planets and strive to illuminate their underlying causes to better understand their origin and evolution. Research on earth and planetary sciences ranges from submarine volcanism to monitoring the environment, from coastal erosion to past climate changes, from the origins of life to monitoring earthquakes and active volcanoes, and from the composition of meteorites and Mars to the distribution of petroleum and water resources. The geosciences offer rich variety and stimulating opportunities for multidisciplinary discoveries of great intellectual and practical importance.

JOB OPPORTUNITIES

Earth science jobs typically offer tremendous variety, opportunities to work both outdoors and in the laboratory, and many opportunities for distant travel. This rich variety is one of the special appeals of a career in the earth sciences. Many earth scientists find employment in the development of our natural resources and the stewardship of our environment. This trend is likely to continue. The need for clean water, sound policies for land use, and stable energy resources continues to increase locally, nationally, and globally. Earth scientists, because of their training, make key contributions in these areas and can expect employment opportunities to expand to meet growing needs.

Employment opportunities exist in both the private and public sectors. Environmental firms and the petroleum industry hire many earth scientists. Geologists and geophysicists also work for numerous state and federal agencies, colleges, and universities. Earth scientists commonly work as part of multi-disciplinary teams with computer scientists, engineers, biologists, chemists, physicists, geographers, and science writers. Geological specialists are also employed extensively in the aerospace industry, in the evaluation of extraterrestrial data and in the planning of future missions in space, such as a manned return flight to the Moon. With their broad backgrounds in science, geologists are also well prepared for careers as science teachers.

PREPARE EDUCATIONALLY

Prospective majors are strongly encouraged to build a solid background of understanding in chemistry, physics, and mathematics. These disciplines form the foundation for investigating how the Earth and other planets work. This broad science foundation also prepares students for diverse opportunities and for work in multi-disciplinary teams.

Many technical professional positions require an advanced degree (MS or PhD). An undergraduate degree in the earth sciences provides a solid preparation for a career in teaching or as a stepping stone to fields such as environmental law and urban planning.

CHALLENGES AND REWARDS

Geology and geophysics provides excellent training in critical thinking and prepares students for a wide variety of potential future employment opportunities ranging from public service to teaching, as well as for students curious about our place in nature. The intellectual rewards of basic geosciences research are comparable to those in other exciting fields such as biomedical research, particle physics, and cosmology. Outstanding challenges in the geosciences include how to predict earthquakes and volcanic eruptions, discovering the history of Mars, understanding the forces that move the surface plates of the Earth, and contributing to wiser stewardship and use of the Earth's precious resources.
THE DEPARTMENT OF GEOLOGY & GEOPHYSICS

WHO WE ARE

The Department of Geology & Geophysics is one of three undergraduate programs within the School of Ocean & Earth Science & Technology (SOEST) at the University of Hawaii at Manoa (UHM). The department offers outstanding programs of study at the undergraduate and graduate levels. The faculty is large (about 25 teaching and research faculty and about 30 additional graduate faculty) and diverse, with strong programs in all major subdisciplines. The department is one of the larger earth science departments in the country and carries on research worldwide. Students have immediate access to many people engaged in the process of discovery. The spirit of curiosity and the pursuit of knowledge are alive and well here!

The geographic location of Honolulu in the midst of the Pacific Ocean and the rich geologic setting provide a natural focus for research programs in seismology, volcanology, marine geology and geophysics, tectonics, planetary science, sedimentology, hydrogeology, geochemistry, paleoceanography, meteorites, and many other fields.

The quality of the school’s research vessels, submersibles, laboratories, and computing facilities reflects its strong commitment to excellence in field studies, as well as in theoretical and modeling studies. The quality of the faculty, research facilities, and opportunities is difficult to match. Research universities such as UHM present unique opportunities for students to conduct hands-on research. The department provides several fellowships to undergraduates on a competitive basis to encourage their participation in research. These also provide opportunities for students and faculty to interact closely. You are encouraged to take advantage of these opportunities to further your academic success.

This department urges all students to seek and create opportunities to work outside of the classroom. Your success depends on it!

WHERE TO GET HELP

ROBERT DUNN
Associate Professor & Advisor
Office: POST 819D
Phone: 956-3728
Email: dunnr@hawaii.edu

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Phone: 956-7751
Email: sinton@hawaii.edu

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SOEST Director of Student Services
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Phone: 956-8763
Email: leonaa@hawaii.edu

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Department Office Manager
Office: POST 701
Phone: 956-7640
Email: ggdept@soest.hawaii.edu

GREG MOORE
Department Chair
Office: POST 807
Phone: 956-6854
Email: gg-chair@soest.hawaii.edu
POLICIES, PROCEDURES & REQUIREMENTS

Please view the University of Hawaii Catalog (http://www.catalog.hawaii.edu/) for complete details on:

- Undergraduate Education
- General Education Core Requirements
- Graduation Requirements
- Course descriptions and prerequisites
- Campus policies and information
DEGREE REQUIREMENTS

SCHOOL OF OCEAN & EARTH SCIENCE & TECHNOLOGY

124 credits total, the equivalent of four years of full-time work

- Chemistry
  CHEM 161, 161L, 162, 162L (8 credits total)

- Physics
  PHYS 151, 151L, 152, 152L (8 credits total) for the BA
  PHYS 170, 170L, 272, 272L (9 credits total) for the BS

- Mathematics
  MATH 241 for the BA (4 credits total)
  MATH 241 and 242 for the BS (8 credits total)

- Biological Sciences
  BIOL 171+171L, BIOL 103/ZOOL 101 or MICRO 130

- 60 non-introductory level courses (i.e. courses numbered 300 and above or 200-level courses that have explicit college-level prerequisites.

- The following courses are introductory courses and will not count toward the 60 credits of non-introductory level courses:
  - CHEM 162, 162L
  - PHYS 152, 152L, 170, 170L
  - 100-level language courses (i.e., 101 and 102)

- 2 semesters of one language (101 through 102)

- Minimum cumulative GPA of 2.00 for all UH Manoa courses

Undergraduate majors in Geology & Geophysics are required to earn a minimum grade of C (not C-) in all courses applied to the GG major requirements (i.e. in GG as well as support courses in chemistry, mathematics, physics, and biology). Any course in which a C or better grade is not achieved must be re-taken until it is achieved.
DEPARTMENT OF GEOLOGY & GEOPHYSICS

Requirements for a Bachelor of Science in Geology and Geophysics

The BS degree in Geology and Geophysics is strongly recommended for students who intend to pursue graduate work or employment in geology or geophysics. This degree provides more substantial grounding in computational skills and analytical procedures than is required for the BA degree; it places additional emphasis on applications of chemistry, physics, and mathematics to studying the Earth.

The BS degree requires:

1) 37 credits in the Geology and Geophysics curriculum including: one introductory level Geology and Geophysics course with a lab, nine non-introductory GG courses, a two-credit research seminar (GG 410).

2) A minimum of 11 credits of approved upper division science electives in Geology & Geophysics. With advice and consent of the undergraduate advisor, courses in other natural sciences, mathematics, or engineering may be substituted as electives. Students are encouraged to participate in an internship or enroll in a mainland summer field course as an elective.

3) Support mathematics and science classes include physics, chemistry, biological sciences (BIOL 171+171L, BIOL 103 or ZOOL 101 or MICRO 130), and two semesters of college calculus; these total 28-29 credits and should be taken as early as possible.

Required BS courses

Geology & Geophysics Courses (37 credits)
GG 101 Dynamic Earth or GG 103 Geology of the Hawaiian Islands (3) and GG 101L Dynamic Earth Laboratory (1) OR
GG 170 Physical Geology (4)
GG 200 Geological Inquiry (4)
GG 250 Scientific Programming (3)
GG 301 Mineralogy (4)
GG 302 Igneous and Metamorphic Petrology (3)
GG 303 Structural Geology (3)
GG 304 Physics of Earth and Planets (4) OR GG 450 Geophysical Methods (4)
GG 305 Geological Field Methods (3)
GG 309 Sedimentology & Stratigraphy (4)
GG 325 Fundamentals of Geochemistry (3)
GG 410 Undergraduate Seminar (2)

Approved Upper Division Geology and Geophysics Courses (11 credits)
GG 300 Volcanology (3) OR GG 425 Environmental Geochemistry (3)
GG 312 Geomathematics (3) OR GG 430 Geology and Mineral Resources of Asia (3)
GG 399 Directed Reading (V) OR GG 444 Plate Tectonics (3)
GG 401 Introduction to Mineral Physics (3) OR GG 450 Geophysical Methods (4)
GG 402 Hawaiian Geology (3) OR GG 451 Earthquakes (3)
GG 407 Energy and Mineral Resources (3) OR GG 454 Engineering Geology (3)
GG 413 Geological Data Analysis I (3) OR GG 455 Hydrogeology (4)
GG 420 Coastal Geology (3) OR GG 460 Geological Remote Sensing (4)
GG 421 Geological Record of Climate Change (3) OR GG 466 Planetary Geology (3)
GG 423 Marine Geology (3) OR GG 499 Undergraduate Thesis (3)

Support Courses (28-29 credits)
General Chemistry (CHEM 161, 161L, 162, 162L)
Calculus I and II (MATH 241, 242)
General Physics (PHYS 170, 170L, 272, 272L)
Biological Science course (BIOL 171+L, ZOOL 101, BIOL 103 or MICRO 130)
Requirements for a Bachelor of Arts in Geology

The BA degree in Geology is appropriate for students interested in the study of the Earth but who do not necessarily intend to pursue graduate work or employment in traditional geology fields. This degree is more flexible than the BS program and is suitable for students who are considering a double major, teaching, or employment other than a professional geologist.

The BA degree requires:

1) 30 credits in the Geology and Geophysics curriculum including: one introductory level Geology and Geophysics course with a lab, seven non-introductory GG courses, and a two-credit research seminar (GG 410).

2) A minimum of 5 credits of approved upper division science electives in Geology & Geophysics is also required; these courses can be in Geology and Geophysics or in other natural sciences, mathematics, or engineering. Students are encouraged to participate in an internship or enroll in a mainland summer field course as an elective.

3) Supporting mathematics and science classes include physics, chemistry, biological sciences (BIOL 171+171L, BIOL 103 or ZOOL 101 or MICRO 130), and one semester of college calculus; these total 23-24 credits and should be taken as early as possible.

Required Courses

Geology & Geophysics Courses (30 credits)

- GG 101 Dynamic Earth or GG 103 Geology of the Hawaiian Islands (3) and GG 101L Dynamic Earth Laboratory (1)
  OR GG 170 Physical Geology (4)
- GG 200 Geological Inquiry (4)
- GG 250 Scientific Programming (3)
- GG 301 Mineralogy (4)
- GG 302 Igneous and Metamorphic Petrology (3)
- GG 303 Structural Geology (3)
- GG 305 Geological Field Methods (3)
- GG 309 Sedimentology & Stratigraphy (4)
- GG 410 Undergraduate Seminar (2)

Approved Upper Division Geology and Geophysics Courses (5 credits)

- GG 300 Volcanology (3)
- GG 304 Physics of Earth & Planets (4)
- GG 312 Geomathematics (3)
- GG 325 Fundamentals of Geochemistry (3)
- GG 450 Geophysical Methods (4)
- GG 401 Introduction to Mineral Physics (3)
- GG 402 Hawaiian Geology (3)
- GG 407 Energy and Mineral Resources (3)
- GG 413 Geological Data Analysis I (3)
- GG 420 Coastal Geology (3)
- GG 421 Geological Record of Climate Change (3)
- GG 423 Marine Geology (3)
- GG 425 Environmental Geochemistry (3)
- GG 430 Geology and Mineral Resources of Asia (3)
- GG 444 Plate Tectonics (3)
- GG 399 Directed Reading (V)
- GG 451 Earthquakes (3)
- GG 454 Engineering Geology (3)
- GG 455 Hydrogeology (4)
- GG 460 Geological Remote Sensing (4)
- GG 466 Planetary Geology (3)
- GG 499 Undergraduate Thesis (3)

Support Courses (23-24 credits)

- General Chemistry (CHEM 161, 161L, 162, 162L)
- Calculus I (MATH 241)
- College Physics (PHYS 151, 151L, 152, 152L)
- Biological Science course (BIOL 171+L, ZOOL 101, BIOL 103 or MICRO 130)
### Sample Schedule for an Incoming Freshman Pursuing a BS

**Semester & Year: Fall**

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**Semester & Year: Fall**

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**Semester & Year: Spring**

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<td>GG 302 (WI)</td>
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<td>WS 200 (DS)</td>
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<td>AMST 201 (DH)</td>
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**Semester & Year: Fall**

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**Semester & Year: Fall**

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**Semester & Year: Spring**

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**Total this column**

|       | 63 | 27 |

**Total Credits this page:**

| 124 | + 0 from previous semester | = 124 | Min: 124 |

**Total NI Credits this page:**

| 60 | + 0 from previous semester | = 60 | Min: 60 |

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University of Hawaii General Education and Graduation Requirements:

- **FG** – Global & Multicultural Perspective course
- **DA** – Diversification course in the Arts
- **DH** – Diversification course in the Humanities
- **DL** – Diversification course in Literature
- **DS** – Diversification course in the Social Sciences

- **Focus E** – Contemporary Ethical Issues course
- **Focus H** – Hawaiian, Asia & Pacific Issues course
- **Focus O** – Oral communication course
- **Focus WI** – Writing intensive course
### Sample Schedule for an Incoming Freshman Pursuing a BA

**Semester & Year: Fall**

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**Semester & Year: Spring**

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**Total this column** 60  22  **Total this column** 64  38

**Total Credits this page:** 124  +  0 from previous semester  =  124

**Total UD Credits this page:** 60  +  0 from previous semester  =  60

University of Hawaii General Education and Graduation Requirements:

- FG – Global & Multicultural Perspective course
- DA – Diversification course in the Arts
- DH – Diversification course in the Humanities
- DL – Diversification course in Literature
- DS – Diversification course in the Social Sciences
- Focus E – Contemporary Ethical Issues course
- Focus H – Hawaiian, Asia & Pacific Issues course
- Focus O – Oral communication course
- Focus WI – Writing intensive course
PLANNING FOR YOUR ACADEMIC SUCCESS

Planning is an essential part of gaining success and reaping its benefits. Your success depends on it!

ACADEMIC ADVISING
Academic advising is an essential element in a successful undergraduate experience. The School of Ocean and Earth Science and Technology requires its majors to meet at least once a semester with their major advisors prior to the next semester’s registration. Registration holds are placed each semester to ensure that students do meet with advisors. Registration holds are removed upon completion of the advising session. While the conversations between advisor and student are focused on courses and academic planning, the purpose of the advising sessions involves the whole student. Discussions on relationships, careers, health concerns, and other life-related situations are also explored. Students are encouraged to make appointments with their advisors at any time and not just prior to their registration for the next semester.

It is equally important for students to be active participants in mapping out their academic plans toward graduation. Arrive prepared for your meetings with your advisors. Be accountable for your own destiny. Each student has access to their own academic record utilizing the University of Hawaii’s STAR Report via their MYUH accounts.

GG advisors include Dr. Robert Dunn and Dr. John Sinton. Students are assigned to advisors upon entering the program. However, students are welcome to meet with either advisor in the event their assigned advisor is unavailable. Ms. Leona Anthony oversees academic advising for all students in SOEST.

EMAIL and EMAIL ACCOUNT
Official email communication is conducted through your @hawaii.edu address. If you utilize another address, please link it to this one. You will be able to keep this address even after you graduate. Check your mailbox several times a week for important information and updates.

PLACEMENT EXAMS
Placement exams are given for several courses including mathematics, chemistry, English, and foreign and Hawaiian language. The placement exams are commonly scheduled two weeks prior to the beginning of a semester or just prior to registration for continuing students. Find out when the exams will be given as soon as possible, then arrange to take the exam. A delayed placement exam could cost you an extra semester or two in school. For more information, contact the department directly and consult the most current Schedule of Classes booklet or on the Registration Homepage through your MYUH account.

MATH: www.math.hawaii.edu/home/Placement.html
CHEMISTRY: www.chem.hawaii.edu
EUROPEAN LANGUAGES: www2.hawaii.edu/~Efadil/webpage/place/llea_place.htm
ASIAN & PACIFIC LANGUAGES: Go to specific departments to inquire

COMPLETE MATH & SCIENCE PRE-REQUISITES EARLY
A solid foundation in mathematics, physics, and chemistry is essential to your success in this program. Prepare by taking course prerequisites early on so that you will be adequately prepared to move on to the next level of courses. Backtracking can result in loss of credits toward your program.

Backtracking is defined in the UHM catalog as: Completion of a lower-level or prerequisite course after (or while) taking an advanced course. Additional credit and grade points are not awarded for lower-level courses if they are taken after or concurrently with the advanced course for which they are explicitly or implicitly prerequisites.
GRADE POINT AVERAGE
To ensure continuation in the GG program, students are required to maintain at least a 2.00 cumulative grade point average. Failure to meet this requirement will result in being placed on probation. If a student's cumulative GPA does not rise above a 2.0 while on probation, the student may be suspended. Rules governing these academic actions are found in the UHM General Catalog.

A minimum grade of C (not C-) in chemistry, mathematics, physics, and biology is required of majors in Geology and Geophysics.

UHM CATALOG IN HAND?
You should obtain a copy of the UHM General Catalog for the semester in which you enter and be familiar with the rules and regulations. While the catalog is available on the web, it is more convenient to have tangible pages to flip through, tag, and highlight for future reference.

HOUSEKEEPING
An initial meeting with SOEST student academic advisor, Leona Anthony is required when you enter the program. She will provide you with the policies and procedures to ensure your success in the degree program. All GG students are required to have their picture taken for the photo board and will be provided with an individual computer access code to the department’s computer lab and undergraduate lounge.

STEPS TOWARD GRADUATION:
Gaining clearance for graduation is a multi-step process.

- Check your online STAR Report.
- **Communicate your graduation plans to your faculty advisor on a regular basis and** at least two semesters prior to the semester in which you plan to graduate.
- Obtain a Graduation Worksheet and complete it with your faculty advisor and submit the completed worksheet to Leona Anthony no later than two semesters prior to your graduation date.
- Attend a SOEST Exit Interview session at the beginning of the semester in which you plan to graduate.
- Complete the “Application for Graduation” form after your exit interview.
- Pay Application for Graduation Fee via MYUH or at the UHM Cashier’s Office.
- Commencement announcements, cap and gown, and other detailed information will be sent to you via email.
HANDY DANDY WEBSITES:
MYUH: www.hawaii.edu/myuh/manoa
STAR Academic Reports: www.star.hawaii.edu:
University of Hawaii Catalog: www.catalog.hawaii.edu
UHM Office of International Education: www.hawaii.edu/oie/
UHM Financial Aid Services: www.island.hawaii.edu/finaid/
Office of the Vice Chancellor for Academic Affairs: www.manoa.hawaii.edu/ovcaa/academics
Office of the Vice Chancellor for Students: /manoa.hawaii.edu/mco/ovcs
UHM Student Employment & Cooperative Education: www.sece.its.hawaii.edu:
SOEST: www.soest.hawaii.edu
SOEST Academic and Education website: www.soest.hawaii.edu/soest_web/soest.academics.htm
GG: www.soest.hawaii.edu/gg
Hawaii Academy of Science: www.hawaii.edu/acadsci/index.html
Hawaii Volcanoes National Park: www.nps.gov/havo
American Geophysical Union: www.agu.org
The Environmental Careers Organization: www.eco.org
Geological Society of America: rock.geosociety.org
National Park Service: www.nps.gov
Orion Grassroots Network for Internships: www.orionsociety.org/pages/ogn/ics.cfm

GAIN EXPERIENCE...GET INVOLVED

GET INVOLVED
The department urges each and every student to seek and create opportunities to work outside of the classroom. Several fellowships are available to undergraduates on a competitive basis to encourage their participation in research and geologic field courses.

SEMINARS
Everyone is welcome to attend any and all of the department’s seminars. For starters, it will provide students with a snapshot of what’s going on in the science community. SURFs UP (Seminar for Undergraduates on Research of Faculty members Sustenance Usually Provided) seminars are usually scheduled in the Fall and highlights not only faculty and their research but working professional geologists. During the academic year (fall and spring), a TGIF seminar series is presented every Friday afternoon and exhibits some of the on-going research by SOEST faculty and visitors. Following the TGIF seminars, attendees gather outside of the building for further discussions, fellowship, and refreshments.

GEOLOGY CLUB
The Geology Club was started many years ago by GG majors to help fund the GG 305 Field Methods field trip to Death Valley each spring. The club also plans field trips around the island and conducts creative fundraising programs including their successful recycling program. If you have a desire to bring undergraduate GG majors together, enjoy being with other students who enjoy the outdoors, or just want to be involved in a worthwhile cause in your area of study, then the Geology Club is for you.
SOEST CLUB
The focus of this club is to bring alive that which is taught in the classroom into the real world. The purpose of the club is to build, support, and encourage relationships between students in the school so that they may foster and nurture their collegiate network toward their professional careers. Social events and community service projects are planned throughout the year.

SOEST STUDENT AMBASSADOR PROGRAM
Each semester, three SOEST majors are selected to be student ambassadors of SOEST. These ambassadors are selected on the basis of their application, GPA, and course load. Each also received assistance toward their semester’s tuition. Responsibilities include: 1) recruitment of prospective students to SOEST; 2) encourage student interest and participation in SOEST; 3) positively portray SOEST to the University and outside communities; and 4) provide service for events scheduled during the semester.

UNDERGRADUATE LOUNGE
POST 714 has been designated as a room for undergraduate majors to congregate and study. GG Undergraduates are responsible for keeping this room clean and safe. Students are responsible for following the rules and regulations set forth by the Department prior to receiving an individual door key code. Access to the lounge is monitored 24 hours a day, 7 days a week.

COMPUTER LAB
GG Undergraduates are provided with access to the GG Computer Labs at all times provided that the POST Building is open. Students are responsible for following the rules and regulations set forth by the Department prior to receiving an individual door key code. Access to the lab is monitored 24 hours a day, 7 days a week. Applications for a door code is available from the Geology & Geophysics Department Office in POST 701.

STUDENT ASSISTANTSHIPS ON RESEARCH GRANTS
Many faculty employ GG undergraduates on research projects. Students interested in working on a research project should consult with the appropriate faculty members.

INTERNSHIPS
Internships are offered year round and declared SOEST majors may earn credits from the internship toward graduation through enrollment in GG 395.

UNDERGRADUATE THESIS
Students are encouraged to carry out a scientific project of small to moderate scope with one or more chosen faculty researchers. Students must complete a document in the style of scientific journal article. For possible research topics, visit the department website or discuss options with an advisor. Course credits are also available.
OTHER OPPORTUNITIES

AGATIN T. ABBOTT MEMORIAL AWARD
This award is given to an outstanding senior each year based on academic record. Contributions to the department’s programs may also be considered. Awarded each spring.

C-MORE SCHOLARS PROGRAM
The C-MORE (Center for Microbial Oceanography: Research and Education) Scholars Program provides students majoring in an ocean or earth science-related field, especially underrepresented students such as Native Hawaiians and Pacific Islanders, the opportunity to participate in hands-on research experiences. Awardees receive guidance and help from a mentor who is a scientist at the university and/or industry. Three levels of awards are offered, depending on the skill and knowledge level of the applicant. Mentors can be chosen by the student, or we can assist the applicant with finding a mentor based on their interests in science. Students may reapply to be a C-MORE Scholar each semester, and there is a required orientation at the start of the Fall and Spring semesters.

WILLIAM T. COULBOURN FELLOWSHIP IN MARINE GEOLOGY
The William T. Coulbourn Fellowship in Marine Geology is offered yearly on a competitive basis to undergraduate or graduate students in the Department of Geology and Geophysics. The purpose of this award is to support student research in sedimentary marine geology. Both graduates and undergraduates may apply. As much as $1,000 in support is available per year. Those receiving a Coulbourn Fellowship are required to present, within one year, an oral summary of their results at a regularly scheduled meeting of the Geology Club, or other public forum. Application deadline is April 1.

HAROLD T. STEARNS FELLOWSHIP
Undergraduate and graduate students in the Geology and Geophysics Department may apply yearly for Harold T. Stearns funds to support research in fields that Dr. Stearns was active in researching. The awards shall be for research in the following areas.

1) Studies of limestone and ancient emerged and submerged shorelines related to eustatic and tectonic changes in sea level on islands in the central Pacific, other Pacific Islands, and along shores bordering the Pacific Ocean.
2) Geologic mapping of Pacific Islands for which no adequate geologic maps are available.
3) Hydrologic studies of Pacific Islands.
4) Studies of limestone and ancient emerged and submerged shorelines related to eustatic and tectonic changes in sea level on islands in the central Pacific, other Pacific Islands, and along shores bordering the Pacific Ocean.
5) Geologic mapping of Pacific Islands for which no adequate geologic maps are available.
6) Hydrologic studies of Pacific Islands.
7) Geochemical, petrologic and radiometric studies of limestone and volcanic rocks on Pacific Islands.
8) Analysis of geophysical data of submerged terraces bordering a Pacific Island.

Those receiving a Harold T. Stearns Fellowship are required to present, within one year, an oral summary of their results at a regularly scheduled meeting of the Geology Club, or other public forum. Application deadline is April 1.
RESEARCH CRUISES
Occasionally, students are invited to participate at scientists aboard nearshore research cruises. The all-expenses-paid experience is invaluable for future geoscientists. Email announcements are sent when these opportunities become available throughout the year.

SPACE GRANT UNDERGRADUATE FELLOWSHIPS
The University of Hawaii Space Grant College, as a participant in the national Space Grant College and Fellowship Program, invites applications for NASA Undergraduate Space Grant Fellowships to support studies in fields related to space (this means scientific disciplines or fields of study including astronomy, geology, meteorology, oceanography, math, physics, engineering, computer science and life sciences).

All full time undergraduates enrolled at either the University of Hawaii at Manoa or University of Hawaii at Hilo who have declared a major and propose study or research with a strong space component are eligible to apply for two-semester fellowships. In rare instances, a one-semester project may be considered. Fellowship applicants must be U.S. citizens, and the applicant must be sponsored by a mentor who is willing to advise the student for the duration of the award. Awards will be based on academic qualifications of the student, quality of proposed research, appropriateness of proposed research to NASA’s goals, and feasibility of proposed research within the planned academic time-frame. Fellows are expected to work 10-15 hours a week on their project. Financial support includes a stipend of $1750 per semester and up to $500 for supplies and/or travel pertinent to their project. Women, under-represented minorities and physically challenged students are particularly encouraged to apply.

For further information contact the Space Grant Office on the 5th floor of the POST Building. Applications should arrive by 15 June for fall semester proposals, or 1 December for spring semester proposals.

FIELD CAMP STIPENDS
The Department of Geology and Geophysics offers field camp stipends to undergraduate Geophysics majors. Award stipends of up to $750 per successful candidate will be offered. Fellowships will be awarded based on the quality of the application and availability of funds.

TUITION SCHOLARSHIPS
The School of Ocean and Earth Science and Technology offers a limited amount of funds toward tuition waivers each semester. These merit-based awards are determined by the previous semester’s grades of full time majors in Geology & Geophysics, Global Environmental Science, and Meteorology. Waivers are awarded by the Associate Dean of SOEST. No application is required.
G&G UNDERGRADUATE ADVISOR'S CHECKLIST FOR BS REQUIREMENTS

Boxes are checked off only if a grade of C (not C-) or better is earned in the course.

STUDENT'S NAME: ___________________________ I.D. NUMBER: ___________________________

EMAIL ADDRESS: __________________________________________ ADVISOR: ___________________________

CONTACT NUMBER: __________________________________________ SEMESTER & YEAR ENTERED GG: _______

SEMESTER & YEAR ENTERED UHM: __________________________ UHM CLASS STATUS UPON ENTRY: _______

CHEMISTRY, MATH, PHYSICS & BIOLOGICAL SCIENCE REQUIREMENTS

☐ CHEM 161, General Chemistry (3)                ☐ CHEM 162, General Chemistry II (3)
☐ CHEM 161L, General Chemistry Lab (1)            ☐ CHEM 162L, General Chemistry Lab II (1)
☐ MATH 241, Calculus I (4)
☐ MATH 242, Calculus II (4)
☐ PHYS 170, General Physics I (4)
☐ PHYS 170L, General Physics I Lab (1)
☐ PHYS 272, General Physics II (3)
☐ PHYS 272L, General Physics II Lab (1)

ONE OF THE FOLLOWING BIOLOGICAL SCIENCE COURSES: ————

☐ BIOL 171+L, Introductory Biology and Lab (4)
☐ ZOOL 101, Principles of Zoology (3)
☐ BIOL 103, Principles of Zoology (3)
☐ MICRO 130, General Microbiology (3)

GG REQUIRED (37 credits)

☐ GG 101 Dynamic Earth OR GG 103 (3) and
☐ GG 101L Dynamic Earth Lab (1)
☐ OR ☐ GG 170 Physical Geology (4)
☐ GG 200 Geological Inquiry (4)
☐ GG 250 Scientific Programming (3)
☐ GG 301 Mineralogy (4)
☐ GG 302 Igneous & Metamorphic Petrology (3)
☐ GG 303 Structural Geology (3)
☐ GG 304 Physics of Earth & Planets (4)
☐ OR GG 450 Geophysical Methods (4)
☐ GG 305 Geological Field Methods (3)
☐ GG 309 Sedimentology & Stratigraphy (4)
☐ GG 325 Environmental Geochemistry (3)
☐ GG 410 Undergraduate Seminar (2)

GG ELECTIVES (11 credits)

With advice and consent of advisor, courses in other natural sciences, mathematics, or engineering may be substituted as electives.

☐ • GG 300, Volcanology (3)
☐ • GG 312, Geomathematics (3)
☐ • GG 399, Directed Reading (V)
☐ • GG 401, Introduction to Mineral Physics (3)
☐ • GG 402, Hawaiian Geology (3)
☐ • GG 407, Energy & Mineral Resources (3)
☐ • GG 413, Geological Data Analysis I (3)
☐ • GG 420, Coastal Geology (3)
☐ • GG 421, Geologic Record of Climate Change (3)
☐ • GG 423, Marine Geology (3)
☐ • GG 425, Environmental Geochemistry (3)
☐ • GG 430, Geology & Mineral Resources of Asia (3)
☐ • GG 444, Plate Tectonics (3)
☐ • GG 451, Earthquakes (3)
☐ • GG 454, Engineering Geology (3)
☐ • GG 455, Hydrogeology (4)
☐ • GG 460, Geological Remote Sensing (4)
☐ • GG 461, Geospatial Information (3)
☐ • GG 466, Planetary Geology (3)
☐ • GG 499, Undergraduate Thesis (3)
☐ • GG 499, Undergraduate Thesis (3)

******************************************************************************

• Denotes non-introductory course

Fall 2011
G&G UNDERGRADUATE ADVISOR'S CHECKLIST FOR BA REQUIREMENTS

Boxes are checked off only if a grade of C (not C-) or better is earned in the course.

STUDENT'S NAME: ___________________________ I.D. NUMBER: ___________________________

EMAIL ADDRESS: ___________________________ ADVISOR: ___________________________

CONTACT NUMBER: ___________________________ SEMESTER & YEAR ENTERED GG: _______

SEMESTER & YEAR ENTERED UHM: ___________ UHM CLASS STATUS UPON ENTRY: _______

CHEMISTRY, MATH, PHYSICS & BIOLOGICAL SCIENCE REQUIREMENTS

☐ CHEM 161, General Chemistry (3) ☐ CHEM 162, General Chemistry II (3)
☐ CHEM 161L, General Chemistry Lab (1) ☐ CHEM 162L, General Chemistry Lab II (1)

☐ • MATH 241, Calculus I (4)

☐ PHYS 151, College Physics I (3) ☐ PHYS 152, College Physics II (3)
☐ PHYS 151L, College Physics I Lab (1) ☐ PHYS 152L, College Physics II Lab (1)

ONE OF THE FOLLOWING BIOLOGICAL SCIENCE COURSES: _______

☐ BIOL 171L, Introductory Biology and Lab (4)
☐ ZOOL 101, Principles of Zoology (3)
☐ BIOL 103, Principles of Zoology (3)
☐ MICRO 130, General Microbiology (3)

GG REQUIRED (30 credits)

☐ GG 101 Dynamic Earth OR GG 103 (3) and ☐ • GG 301 Mineralogy (4)
☐ • GG 300, Volcanology (3)
☐ • GG 103 (3) and ☐ • GG 302 Igneous & Metamorphic Petrology (3)
☐ • GG 101L Dynamic Earth Lab (1) ☐ • GG 303 Structural Geology
☐ • GG 304, Physics of Earth & Planets (4) ☐ • GG 305 Geological Field Methods (3)
☐ • GG 307, Energy & Mineral Resources (3) ☐ • GG 309 Sedimentology & Stratigraphy (4)
☐ • GG 312, Geomathematics (3) ☐ • GG 410 Undergraduate Seminar (2)
☐ • GG 325, Environmental Geochemistry (3) ☐ • GG 328, Plate Tectonics (3)
☐ • GG 330, Volcanology (3) ☐ • GG 350 Geophysical Methods (4)
☐ • GG 334, Physics of Earth & Planets (4) ☐ • GG 351, Earthquakes (3)
☐ • GG 338, Environmental Geochemistry (3) ☐ • GG 454, Engineering Geology (3)
☐ • GG 339, Directed Reading (V) ☐ • GG 455, Hydrogeology (4)
☐ • GG 401, Introduction to Mineral Physics (3) ☐ • GG 460, Geological Remote Sensing (4)
☐ • GG 402, Hawaiian Geology (3) ☐ • GG 461, Geospatial Information (3)
☐ • GG 407, Energy & Mineral Resources (3) ☐ • GG 466, Planetary Geology (3)
☐ • GG 413, Geological Data Analysis I (3) ☐ • GG 499, Undergraduate Thesis (3)
☐ • GG 420, Coastal Geology (3) ☐ • GG 421, Geologic Record of Climate Change (3)
☐ • GG 423, Marine Geology (3)

GG ELECTIVES (5 credits)

With advice and consent of advisor, courses in other natural sciences, mathematics, or engineering may be substituted as electives.

☐ • GG 425, Environmental Geochemistry (3)
☐ • GG 430, Geology & Mineral Resources of Asia (3)
☐ • GG 444, Plate Tectonics (3)
☐ • GG 450, Geophysical Methods (4)
☐ • GG 451, Earthquakes (3)
☐ • GG 454, Engineering Geology (3)
☐ • GG 455, Hydrogeology (4)
☐ • GG 460, Geological Remote Sensing (4)
☐ • GG 461, Geospatial Information (3)
☐ • GG 466, Planetary Geology (3)
☐ • GG 499, Undergraduate Thesis (3)

• Denotes non-introductory course

Fall 2011
2011-2012 UHM General Education, Core & Graduation Requirements

☐ Boxes are checked off only if course is completed with a passing grade

FOUNDATIONS (Circle/highlight completed courses): *new this academic year
☐ Written Communication (FW): ENG100, 100A, 190; ELI 100
☐ Symbolic Reasoning (FS): BUS 250, ECON 301; ICS 141, 241, MATH 100, 111, 112, 140, 161*, 203, 215, 241, 251;
NREM 203; PHIL 110, 111
☐ Global & Multicultural Perspectives (FG): 2 courses from different groups
  ☐ Group A (early): ANTH 151, ART 175, HIST 151, HIST 161A, or WS 175
  ☐ Group B (modern): AMST 150, ANTH 152, ART 176, FSHN 141*, GEOG 102, HIST 152, 155/162A, TIM 102* or WS 176
  ☐ Group C (early to modern): BOT 105, GEOG 151, LLL 150, MUS 107 or REL 150

Diversification courses must come from different departments than the courses used to satisfy the Foundations Global & Multicultural Perspectives requirement. For example, a student who takes ANT 151 and ART 176 for her FG requirement cannot use Anthropology or Art courses to satisfy her Diversification requirement.

DIVERSIFICATION (List completed courses)
Arts (DA), Humanities (DH) & Literatures (DL): 2 courses totaling 6 credits from two areas (e.g. if one is a DA course the other must be either a DH or DL)
☐ ________________________ DA/DH/DL (circle one)
☐ ________________________ DA/DH/DL (circle one)

Biological Sciences (DB), Physical Sciences (DP) & Science Laboratory (DY): 2 courses and 1 lab
☐ ________________________ DB
☐ ________________________ DP
☐ ________________________ DY

Social Sciences (DS): 2 courses totaling 6 credits from two different departments
☐ ________________________ DS
☐ ________________________ DS

GRADUATION REQUIREMENTS (List completed courses)

Focus Courses: Double dipping with Diversification & Major OK
☐ ________________________ Contemporary Ethical Issues (E)
☐ ________________________ Hawaiian, Asian & Pacific Issues (H)
☐ ________________________ Oral Communication (O)
☐ ________________________ Written Communication (W*)
☐ ________________________ Written Communication (W*)

*WI must be numbered 300- or 400-level

Focus Requirements for Non-UH System Transfer Students

<table>
<thead>
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<th>No. of accepted</th>
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<th>E</th>
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<td>UH credit hours</td>
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<td>55-88</td>
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<td>1-E or 1-O</td>
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Focus Requirements for UH System Transfer Students

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</tbody>
</table>

*At least two “W” courses must be numbered at the 300- or 400-level.

Hawaiian or Second Language Requirement: Students must show competence at the 102 (or equivalent) level in Hawaiian or a second language by either completing a two-semester sequence, demonstrating competence by exam, or receiving a waiver for one language.

☐ ________________________ 101
☐ ________________________ 102