

IRAO OFFICE USE ONLY	
Received	
In Banner	
MTVCOMP	

University of Hawai'i  
Code Request Form for Academic Programs

# NEW OR MODIFIED SUBJECT CODE

Date: January 15, 2019

## REQUESTOR CONTACT INFORMATION

Name Stuart Lau Campus Manoa  
 Title Registrar Email stuartl@hawaii.edu  
 Office/Dept Office of the Registrar Phone 956-5322

- NEW SUBJECT CODE USE AT INSTITUTION**  
 **MODIFY SUBJECT CODE USE AT INSTITUTION**

Institution Manoa Effective Term Fall 2019

		Code (Max. Characters)	Description (30 characters max)	Check if requesting new code:
College	(2)	<u>11</u>	<u>Sch of Ocean &amp; Earth Sci&amp;Tech</u>	<input type="checkbox"/> See Banner form STV_COLL
Division	(4)	<u></u>	<u></u>	<input type="checkbox"/> See Banner form STV_DIVS
Department	(4)	<u>ERTH</u>	<u>Earth Sciences</u>	<input checked="" type="checkbox"/> See Banner form STV_DEPT
Subject	(4)	<u>ERTH</u>	<u>Earth Sciences</u>	<input checked="" type="checkbox"/> See Banner form STV_SUBJ

## ATTACHMENTS

- Memo with appropriate campus approval (i.e. Campus Curriculum Committee, Vice Chancellor for Academic Affairs, etc.)

## VERIFICATIONS

### Registrar:

Stuart Lau  January 15, 2019  
 Print Name Signature Date

### Financial Aid Officer:

Jodie Kuba  1/18/2019  
 Print Name Signature Date

*For Community Colleges, verification of consultation with OVPCC Academic Affairs:*

\_\_\_\_\_  
 Print Name Signature Date

UNIVERSITY OF HAWAII AT MĀNOA

School of Ocean and Earth Science and Technology  
Department of Earth Sciences

8 12 5 43.53

5 December 2018

MEMORANDUM

TO: Michael Bruno  
Interim Vice Chancellor for Academic Affairs and  
Vice Chancellor for Research

VIA: Brian Taylor *Brian Taylor*  
Dean of the School of Ocean and Earth Science and Technology

FROM: Paul Wessel *[Signature]*  
Chair of the Department of Earth Sciences

SUBJECT: Subject name and alpha changes for Department of Earth Sciences

Following the UHM President Chancellor's Sept. 18, 2018 approval of our department name change to Earth Sciences (formerly Geology & Geophysics; GG), the department has decided to change our course subject and alpha as indicated below. Note that several of our courses are cross-listed with other programs, hence these programs (particular their UHM Catalog sections) will need to update their cross-listing entries to match our new alpha code. We request that our new alpha (and in three instances the course titles) be fully operational in time for the Fall 2019 semester early registration. A fourth course will be deleted.

1) We have chosen a single, new subject name and course alpha for all our courses:

Subject name: Earth Sciences      Course alpha: EARTH

Please bulk replace the previous GG alpha with EARTH throughout the UHM system.

2) Three courses need to change their alphas as well as their course titles to better align with the new subject and graduate degree program names. UHM-2 forms for each course plus course SLOs and syllabi are attached; there are no other changes to the courses. The 600-level course is offered to incoming graduate students without an Earth Sciences undergraduate degree (such as incoming students with a physics or chemistry BS). The two 700-level courses are used for one-off topical seminars; often, several are offered per semester with different sub-titles and instructors (since contents vary I attach one recent example of syllabi and SLOs for each course):

ERTH 611 Accelerated Introduction to Earth Science  
ERTH 710 Selected Topics in Earth and Planetary Sciences  
ERTH 711 Special Topics in Earth and Planetary Sciences

3) At this time we also wish to delete GG 612 which has not been taught in 6 years; a UHM-2 form for this course is attached as well.

APPROVED/DISAPPROVED:

*Michael Bruno*  
 \_\_\_\_\_  
 Michael Bruno  
 Interim Vice Chancellor for Academic Affairs and  
 Vice Chancellor for Research

*12/10/18*  
Date



UNIVERSITY  
of HAWAII  
MĀNOA

Department of Geology and Geophysics  
School of Ocean and Earth Science and  
Technology

RECEIVED  
15 June 2018 15 48 52  
18 SEP -6 P4:35

**Memorandum**

**TO:** David Lassner  
President

**VIA:** David Lassner  
Interim Chancellor, UH Manoa *David Lassner*

**VIA:** Michael Bruno  
Interim Vice-Chancellor for Academic Affairs  
Vice-Chancellor for Research *Michael Bruno*

**VIA:** Brian Taylor  
Dean of the School of Ocean and Earth Science and Technology *Brian Taylor*

**FROM:** Kenneth Rubin  
Chair of the Department of Geology and Geophysics *Kent Rubin*

**SUBJECT:** Request to change the Department name and the titles of degrees in "Geology",  
and "Geology and Geophysics"

**SPECIFIC ACTION REQUESTED:**

On behalf of the faculty of the department of the UHM Department of Geology and Geophysics (GG), I request that the President (a) change the name of the Department to Earth Sciences, (b) change the titles of the undergraduate degrees currently offered by GG Department from the two current names (BA in Geology and BS in Geology and Geophysics) to a single, shared name (BA and BS in Earth and Environmental Sciences, abbreviated as EES), and (c) change the title of our graduate program name from Geology and Geophysics to Earth and Planetary Sciences. Current track names under the BA degrees (a. Earth Science Education and b. Environmental Earth Science) would not change. The proposed changes are summarized in the table below. *The name changes are a critical component of strategic planning, of national disciplinary trends over the past 20 years, and of improved alignment of names and titles with what the department actually does.*

Current Department name  
Geology and Geophysics (abbreviated GG)

New proposed names  
Earth Sciences (abbreviated ES)

Current degree + track names  
Geology: *Earth Science Education* (BA)  
Geology: *Environmental Earth Science* (BA)  
Geology and Geophysics (BS)  
Geology and Geophysics (MS, PhD)

New proposed names  
Earth and Environmental Sciences: *Earth Science Education* (BA)  
Earth and Environmental Sciences: *Environmental Earth Science* (BA)  
Earth and Environmental Sciences (BS)  
Earth and Planetary Sciences (MS, PhD)

**RECOMMENDED EFFECTIVE DATE:**

Upon approval (ideally before Fall 2019)

#### ADDITIONAL COST:

None.

#### PURPOSE:

The traditional disciplines of "Geology" and "Geophysics" have changed significantly over the past several decades, broadening at their edges, and merging with aligned geoscience fields of geochemistry, geohazards, geobiology, hydrology and environmental science. In fact, all of these terms describe teaching and research conducted by GG faculty today. Because of this shift, where once Geology was a common department name at US universities, it is now quite rare. Most such programs are now called Earth Sciences, Earth and Environmental Sciences, or Geoscience. The shift started 20 years ago, and GG is late to the table, but has been thinking about this for the better part of the past decade, and made serious inroads and discussions starting 5 years ago.

Changing department name and degree titles is part of a larger strategy to update, rebrand, better align names with activities, and to increase the visibility of the GG department and its degree programs in the state, with a significant goal of increasing student enrollment and broadening perceptions of our research foci. The department name is the most simple of the common choices, and directly aligns with the "E" (Earth) in SOEST. GG is the primary home of Earth Sciences on the UHM campus.

The degree title changes will make the programs more discoverable by aligning names with the vocabulary of incoming students, better align the degree titles with the intellectual content of the degrees, reflect current trends nationally (wherein a significant fraction of formerly Geology programs have renamed themselves, as noted above), and better reflect the industry/employment sector most of our graduating students find employment in (Earth and Environmental Sciences).

The requested name and degree title changes will not entail any changes in degree requirements or content for our degree programs. The title changes are meant to realign program names with their existing content. It will almost certainly increase enrollment. Our BA already has a track titled 'Environmental Earth Science' and another track, specifically designed for teachers, called 'Earth Science Education'. Our BS degree already includes major components of Earth and Environmental Sciences as well. Our graduate degree includes a significant number (about 25%) of students conducting planetary research in partnership with our colleagues in HIGP, whom GG has had a shared 60 year history with, which the graduate degree change acknowledges. Without diminishing the role of the traditional topics of Geology and Geophysics, using the broader "Earth Sciences" base for all names and titles will allow the department to better reflect the variety of work done in GG and to consider future expanded content offerings through tracks.

#### POTENTIAL CONFLICTS:

- (1) The Civil and Environmental Engineering department in the College of Engineering has a BS degree titled "Civil Engineering"
- (2) The Department of Oceanography has a BS degree titled "Global Environmental Sciences" (GES).

(3) The Geography Department, College of Arts and Sciences, recently changed its department name to "Geography and the Environment". It offers a BA in "Geography", with one of three streams in "Environmental Geography" (plus streams in "Human Geography" and "Geographic Technologies").

(4) The Department of Natural Resources and Environmental Management, College of Tropical Agriculture and Human Resources (CTAHR), offers BS degree in "Natural Resources and Environmental Management (NREM)", with two pathways ("Natural Science" and "Social Science").

(5) The Department of Tropical Plant and Soil Sciences, (also in CTAHR), offers a BS degree in "Tropical Plant and Soil Sciences (TPSS)" with 5 areas of specialization, one of which is "Environmental Soil Sciences".

#### **RESPONSE TO POTENTIAL CONFLICTS:**

The programs listed above intersect with the study of the environment in very different ways than those of our department, and are complementary to our programs. Having multiple programs on campus with the descriptor "environmental" is fully appropriate given the breadth and importance of environmental research and education. It is common for students with environmental interests who are seeking degrees outside of SOEST to enroll in our courses, and vice versa.

(1) There is little to no overlap between the science disciplines of Earth Science and Environmental Science with the engineering discipline of Civil Engineering.

(2) Within SOEST, there is some natural overlap in the content of degrees offered by the GG and OCN departments in their respective undergraduate programs. However, the degree programs cover very different aspects of environmental science: terrestrial and aquatic environments in GG, with a very applied focus, versus a broader, ecosystems and social science focus in GES. The GES degree involves study of "Earth's physical, chemical, biological, and human systems... [where] students investigate natural as well as economic, policy, and social systems" (quoted from the SOEST website). In contrast, the GG degrees emphasize the integration of and overlaps between the traditional Earth Science and Environmental Science disciplines, which makes graduates highly employable in this professional sector. It is also worth noting that the GG BA degree, which emphasizes both teacher training and Environmental Earth Science knowledge, has no equivalent within GES. Accordingly, it is reasonable for undergraduate degree programs in 'global environmental science' and 'earth and environmental science' to coexist amicably in parallel, and to continue to enjoy synergies in course offerings and student recruitment.

(3) The Geography Department's recent department name came as a complete surprise to those of us in SOEST. However the addition of "Environment" to the name connotes something very different from Environmental Science (namely, a geographical focus on Environmental topics). The department's 'Environmental Stream' is a track with a broad purview of resource management and policy. In contrast, the GG programs emphasize the application of geoscientific observations, methods and principles of Earth Science and Environmental Science to modern and ancient environments (e.g., hydrology, geochemistry, geophysics, ecology), human impacts thereon, and adaptive and mitigating strategies. It is presumably because of this difference (i.e., recognition of the difference by the administration) that GG was not consulted when Geography added Environment to its department name in the 2017-2018 academic year.



(4) CTAHR's NREM BS degree has a management emphasis (including such topics as public speaking and cultural sensitivity), and a biological emphasis, whereas our programs have a geoscience focus, with some overlap at the interface between Earth Science and Ecology.

(4) CTAHR's TPSS BS, through the Environmental Soil Sciences specialization, is focused on soil science and agricultural science, whereas our programs have a broader focus on a wide range of environments at Earth's surface and within.

#### BACKGROUND INFORMATION:

Geology became a department with its first degree offering at UHM in 1958, followed by a name change in the 1960s to Geosciences, and a subsequent name change to Geology and Geophysics in 1971. Since then, the discipline has evolved and expanded greatly, and now includes a wide array of related disciplines under what many geoscientists would refer to as "Geoscience", or "Earth and Environmental Sciences." These new disciplines have been integrated into GG faculty research and instruction, with faculty hires since the mid-1970s, and additions and expansions each decade thereafter. The proposed degree title changes are therefore *long overdue*. They are in some ways, remedial.

There are numerous internal issues driving this request, including improving degree identity, raising enrollment, and enhancing the value of the degree to students. The faculty of the Department of Geology and Geophysics has been working in stepwise fashion on changes that will assist in rebranding, modernization, and discoverability for our academic programs since well before Rubin became department chair in 2014. GG has done exhaustive consultations with students, GG faculty, other SOEST faculty, and the SOEST Dean's office to arrive at a set of names that do not impinge on sister programs, and yet update and better reflect who GG is. These efforts began in earnest after the last external program review in 2013, and include already-approved changes to the BA degree (replacement of the original degree plan with two new tracks in Earth Science Education and Environmental Earth Science, approved in early 2015), and our current requests. In 2014, just as Rubin became chair, the undergraduate programs of the Department of Geology and Geophysics were identified as Low Enrollment programs by the UH system, and were serving fewer students than their capacity. Since the change, mean enrollment has quadrupled (from 2 to 8), with trends increasing, because of the refocus and introduction of the environmental track. The BS degree remains on the cusp of low enrollment and likewise needs a modernizing nudge. GG has made strides in increasing enrollment and retention; however the faculty feels strongly that major progress in this area will not occur without a change to the degree program titles as proposed.

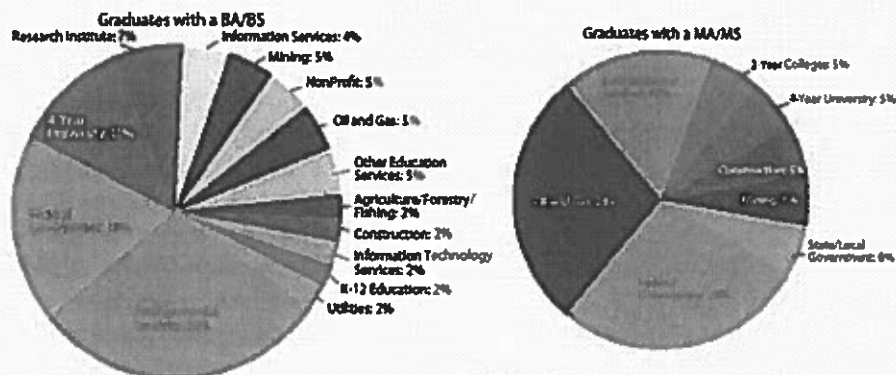
The department faculty have been carefully considering these changes to its department name and degree titles for two primary reasons: (i) the current names do not reflect the academic pursuits (teaching and research) of a majority of GG faculty; and (ii) the current degree names are hurting efforts to grow the programs via student recruitment. "Geology" and "Geophysics" do not hold significant meaning to potential students because there are no courses with those names in junior high or high school (whereas courses in Earth Sciences and Environmental Sciences are available to them). These current conditions limit the ability of the GG degree programs to reach their fullest potential in service to the state, particularly in terms of enrollment.

GG faculty members have discussed, voted, re-discussed, and voted several times on this topic, in part to help accommodate concerns of faculty in other SOEST units, and in part because the SOEST dean's office restricted several name choices after GG had considered them. Throughout, the undergraduate degree change to "Earth and Environmental Sciences" has consistently been strongly popular, starting with votes in Oct. and Nov. 2016 of 22 to 4 and 21 to 2 (with 2 abstentions), pairing this name against just Geology and Geophysics and just Earth Science. On this basis we requested a degree program name to the SOEST Dean, that at the time he declined to pass forward for consideration. Most recently, on 14 April 2018, GG again considered more options to the dept. and degree names. The slate of choices proposed in this memo won by a margin of 14 to 2 to 2, where the other two options (a) included "Environmental" in the department name (i.e., dept. of Earth and Environmental Sciences") and (b) did not include "Environmental" in any names (i.e., just Earth Sciences), respectively. 1 person was on leave in April 2018; another did not vote.

Why has the department consistently voted in favor of this name change?

- The proposed name is a much more accurate description of our department. A majority of our faculty teaches and conducts research in areas of science that are vital to the human environment: areas such as ground water (including contaminants), coastal processes (status of Hawaii beaches, implications of sea level rise for Hawaii), natural hazards (volcanoes, tsunamis, landslides, earthquakes), and pollution in Hawaii and elsewhere.
- The current name, 'Geology and Geophysics' uses terms that are foreign to modern high school and college level students.
- The proposed name and titles are much clearer description of our faculty research identity, and curricular content at the undergraduate and graduate levels.
- The proposed name and titles are understandable to lay members of the general public, who support the university with their taxes and look to GG for expertise in the geosciences.
- The proposed name and titles are understandable to prospective donors who may wish to financially support our teaching and research.
- The proposed name and titles align with the employment sector of our students post-degree (see diagram), with environmental services being the TOP employment sector for geoscience students at the undergrad level and third (after government and petroleum) at the MS level.

Industries where graduating students have accepted a job within the geosciences



Graduating student employment statistics compiled from student exit surveys by the American Geoscience Institute (AGI) in their 2017 Status of Recent Geoscience Graduates report (<https://www.americangeosciences.org/workforce/reports>).

Pursuant to the Board of Regents Policy 5-1 (h) "Naming of Programs" (i)

*Programs are given a name at the time they are approved by the Board. Thereafter, the President may approve changes in the functional names of academic programs and credentials as may become necessary to remain current with terminology and focus of their fields and involve no significant changes in program requirements.*

**ACTION RECOMMENDED:**

We recommend that the President approve the GG Department Name change to "Earth Sciences", the undergraduate degree title changes from BA in Geology and BS in Geology and Geophysics, to BA and BS in Earth and Environmental Sciences, and the graduate degree program name to Earth and Planetary Sciences, all within the School of Ocean and Earth Science and Technology, University of Hawai'i at Mānoa.

**Approval/Disapproval:** Change in department name to Department of Earth Sciences  
(Chancellor is delegated authority pursuant to A3.101, University of Hawai'i Organizational and Functional Changes)



David Lassner  
Interim Chancellor

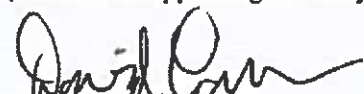
SEP 18 2018

Date

**Approval/Disapproval:**

1. Change in title of degrees to BA and BS in Earth and Environmental Sciences
2. Change in title of graduate program name to Earth and Planetary Sciences

(President is approving authority pursuant to RP 5.201, Instructional Programs)



David Lassner  
President

SEP 18 2018

Date

- c: Donald Straney, Vice President for Academic Planning and Policy  
Stuart Lau, Registrar





**UNIVERSITY  
of HAWAII**  
SYSTEM

RECEIVED

18 SEP -5 P1:55

MANOA CHANCELLOR'S  
OFFICE

Michael Ng  
Budget Director

September 5, 2018

**TO:** Michael Bruno  
Interim Vice Chancellor for Academic Affairs  
and Vice Chancellor for Research

**FROM:** Michael Ng *M Ng*  
Budget Director

**SUBJECT:** Department Name and Degree Title Change for "Geology and Geophysics"

This is regarding the June 15, 2018 request to change the department name of "Geology and Geophysics" to "Earth Sciences". The University Budget Office is of the opinion that the proposed change in the organizational segment title presented in the above referenced Memorandum does not duplicate and will not be confused with the title of any other organization or unit within the University.

In reference to the title change to Geology's BA and BS degrees, the University Budget Office defers this matter to Academic Affairs.

If further information is needed, I can be reached at Ext. 67323 or by email at: [ng23@hawaii.edu](mailto:ng23@hawaii.edu).

Attachment

2442 Campus Road  
Admin Services Bldg 1, Room 101  
Honolulu, Hawaii 96822  
Telephone: (808) 956-6071  
Fax: (808) 956-9002

An Equal Opportunity/Affirmative Action Institution