

IRAO OFFICE USE ONLY	
Received	11-22-16
In Banner	
MTVCOMP/Codeset	
Master Curriculum	
CIP Code	
Program Code	
Program Description	

University of Hawai'i
Code Request Form for Academic Programs for

Reset Form

NEW OR MODIFY PROGRAM CODE



New Program Code



Modify Program Code

Date: 9/27/16

REQUESTOR CONTACT INFORMATION

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

NEW PROGRAM CODE TO CREATE

Institution MAN - UH Manoa Campus MAN - UH Manoa
 Level GR - Graduate Effective Term Fall 2016

	Code (Max. Characters)	Description	Check if requesting new code:
College	(2) <u>50</u>	<u>Graduate Division</u>	<input type="checkbox"/> See Banner form STVCOLL
Department	(4) <u>MB</u>	<u>Marine Biology</u>	<input type="checkbox"/> See Banner form STVDEPT
Degree/Certificate	(6) <u>MS</u>	<u>Master of Science</u>	<input type="checkbox"/> See Banner form STVDEGC
Major	(4) <u>MBN</u>	<u>Marine Biology (Natural Sci)</u>	<input type="checkbox"/> See Banner form STVMAJR
Concentration	(4) <u>EEC</u>	<u>Ecology, Evolutn, Conserv Biol</u>	<input type="checkbox"/> See Banner form STVMAJR
Minor	(4) _____	_____	<input type="checkbox"/> See Banner form STVMAJR

MBN-MS

If a similar major/concentration code exists in Banner, please list the code:

Justification to warrant a new major/concentration code similar to an existing major/concentration code:

Is this major/concentration code being used the same way at the other UH campuses? Yes No

Should this program be available for applicants to select as their planned course of study on the online application? *If yes, student may select the code as their only program of study.* Yes No

RULES PERTAINING TO FINANCIAL AID AND 150% DIRECT SUBSIDIZED LOAN LIMIT LEGISLATION

Is 50% or greater of the classes in this program offered at a location other than the Home Campus? Yes No

Is this program/major/certificate financial aid eligible? Yes No

Does this certificate qualify as a Gainful Employment Program (Title IV-eligible certificate program)? Yes No

See <http://www.ifap.ed.gov/GainfulEmploymentInfo/index.html>

Program Length

In academic years; decimals are acceptable. The length of the program should match what is published by the campus in any online and/or written publication.

3.000 Years

Special Program Designations

See *Special Program Designations Code Definitions on IRAO Program Code Request webpage*

A B N P T U

Required Terms of Enrollment: Fall Spring Summer Extended

ADDITIONAL COMMENTS

Create new program code to include EECB specialization.

ATTACHMENTS

BOR Approved: Associate, Bachelor and Graduate Degrees, and sole credential certificates

BOR Meeting Minutes & Supporting Documents Curriculum

Chancellor Approved: Certificates related to authorized BOR program & Associate in Technical Studies (ATS) Degree

Memo from Chancellor to notify VPAA about new program Curriculum

For new certificates approved by the Chancellor, the related BOR authorized academic program is:

VERIFICATIONS

By signing below, I verify that I have reviewed and confirm the above information that is pertinent to my position.

Registrar:

Stuart Lau



11/14/16

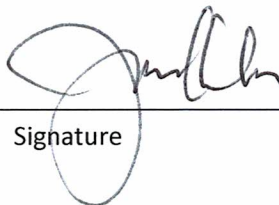
Print Name

Signature

Date

Financial Aid Officer:

Jodie Kuba



11/17/16

Print Name

Signature

Date

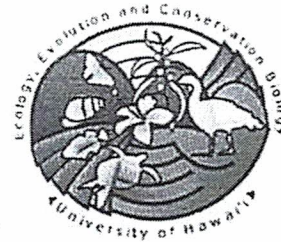
For Community Colleges, verification of consultation with OVPCC Academic Affairs:

Print Name

Signature

Date

RECEIVED
ECOLOGY, EVOLUTION AND
CONSERVATION BIOLOGY
COLLEGE OF NATURAL SCIENCES
UNIVERSITY OF HAWAII



14 September 2016

MEMORANDUM

TO: Michael Bruno
Interim Vice-Chancellor of Academic Affairs

FROM: Clifford W. Morden, Chair - EECB Specialization
Judy Lemus, Co-Chair - Marine Biology Graduate Program
Celia Smith, Co-Chair - Marine Biology Graduate Program

Via: Tom Ranker, Interim Dean
College of Natural Sciences

Via: Brian Taylor, Dean
SOEST

Via: Krystyna Aune, Dean
Office of Graduate Education

SUBJECT: Participation of Marine Biology Program with the EECB
Graduate Specialization

The Ecology, Evolution and Conservation Biology (EECB) Graduate Specialization was established to facilitate communication and collegiality among the various graduate programs at the University of Hawaii at Manoa with research interests in the three topic areas ecology, evolution, and/or conservation biology. The EECB graduate faculty includes faculty from the following academic departments and research units:

- | | |
|----------------------------------|---------------------------------|
| * Anthropology (0 at present) | * Microbiology (0 at present) |
| * Biology (Zoology program) (8) | * NREM (2) |
| * Botany (12) | * Oceanography (2) |
| * Cell and Molecular Biology (1) | PBRC (5) |
| * Geography (2) | * PEPS (Entomology program) (1) |
| Geology and Geophysics (1) | * TPSS (0 at present) |
| HIMB (2) | |

* Departments Hosting Presently Participating Programs

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TELEPHONE: 808-956-9636 • E-MAIL: eeeb@hawaii.edu • WEBSITE: <http://hawaii.edu/eeeb/>

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Cooperating and Affiliate Faculty have been from the University of Hawaii at Hilo, Hawaii Cooperative Fishery Research Unit, Bishop Museum, US Fish and Wildlife Service, US Department of Agriculture, and US Geological Survey.

Faculty within several of the above-listed graduate programs are also faculty within the Marine Biology Graduate Program (MBGP). As such, there are several graduate students that have been accepted to MBGP who are sponsored by these faculty and have a demonstrated interest in the EECB program through research, coursework, attendance at EECB sponsored events such as the weekly seminar series, *Evoluncheon*, and by applying to join the program. Because of this, it would be of benefit to the students if the MBGP were to be a formal cooperating program with the EECB Specialization.

There are several benefits to the students. First and most importantly, it allows the students academic communication with a diverse array of professionals within the EECB community. This has been of tremendous value as they endeavor to establish their thesis/dissertation committees, seek advice on research issues or professional development, analysis of data, etc. Many of these contacts would not be established if the students were not aware of the faculty resources, something done through EECB activity.

Secondly, the EECB program has obtained funding through grants and donations to support graduate student research. There are presently three fellowships that students apply to each Spring term with funds available ranging up to \$5000 per fellowship. The fellowships include (details at <http://www.hawaii.edu/eecb/current.html>):

- Maybelle Roth Fellowships (an ARCS award)
- Hampton and Meredith Carson Fellowships
- Watson T. Yoshimoto Fellowships

Thirdly, the weekly *Evoluncheon* seminar provides students with a wide variety of research talks to broaden their scope of knowledge and get better insights into research methods they might apply. Most importantly, it is an opportunity for the students to present their research in a seminar format to a friendly audience that can give them positive feedback on their work, input for possible future studies or additional analyses, and do so either in a short (meeting-style) or long (seminar) format. The current semester's seminar series is posted at <http://www.hawaii.edu/eecb/index.html> with seven students presenting.

Presently, there are five (5) students in the MBGP that have applied to and were accepted into the EECB Specialization with the assumption that it was previously approved as a participating program. Given the research interests of the MBGP faculty, it is anticipated that this number will continue to increase in the future. The five students are:

- Michael Hoban*
- Marian Howe*
- Derek Kraft*
- Elaine Luo
- Eileen Nalley

- With plans to graduate in the near future.

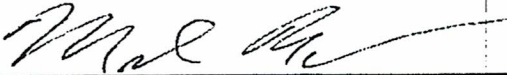
Admission requirements to the EECB Specialization, in addition to OGE and department requirements (online at <http://www.hawaii.edu/eccb/admissions.html>), include the following:

- Acceptance into a graduate program in an academic department
- Enrollment at the University of Hawaii at Manoa
- EECB faculty sponsorship (generally, but not required, the student's major advisor)
- Research interests (via written statement) in one (or more) of the three disciplines of EECB

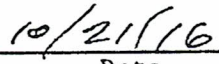
There are no costs associated with participation in the EECB Specialization. Faculty time is given freely by those involved and there is no financial support to the program by any of the academic departments or colleges. Faculty have worked with students to develop fundraiser activities (T-shirt sales, food sales, donations, etc) for student events.

We appreciate your attention to this request.

APPROVED / DISAPPROVED:



Michael Bruno
Interim Vice Chancellor for Academic Affairs



Date

EECB Course Requirements

EECB course requirements consist of one course in Ecology, Evolution and Conservation Biology at the 600 or 700 level, at least 2 credits. Courses taken at other universities cannot be used to fulfill EECB course requirements but approved courses taken at the University of Hawaii prior to admission to EECB can count towards the EECB requirements.

In addition, students must complete all degree requirements of the home academic department and participate in EECB activities, particularly the "Evoluncheon" seminar series held weekly.

Generic Course Titles

Generic course titles such as BOT612 Advanced Botanical Problems. or ZOO 739 Topics in Ecology, the content of which may differ each time it is offered, require evaluation by the EECB curriculum committee each time a new course is offered. For such courses please submit the syllabus to the EECB chair who will pass it to the curriculum committee to determine whether it will fulfill one or more of the three course requirements. If, after the fact, you wish to know whether a course you took previously will fulfill one of the EECB requirements, please also submit a syllabus to the EECB chair who will again pass it to the curriculum committee for evaluation.

Courses no longer offered

Some of the courses listed below are no longer offered or were 'one-off' courses. They remain on the list for now so that students who took these courses in the past can see which ones fulfill which requirements. However, the course designations for these courses are enclosed in brackets, at least those that are known to be no longer offered.

EECB Approved Courses

Ecology	Evolution	Conservation Biology
ANTH 606 Anthropology of Infectious Disease (3)	ANTH 604 Physical Anthropology (3)	ANTH 620H Human Ecology (3)
[BOT 612/ANTH 750B] Ecological impact of alien rats Drake/Hunt	BOT 603 [was BOT 612] Origin of Species (2) Ranker (Spring 2014, Spring 2015, Spring 2016, Spring 2017)	BOT 612 IUCN Red List assessments (2) Morden (Spring 2016)
[BOT 612] Seed Ecology	[BOT 610] Seed Ecology	BOT 612 Ecology and conservation of coastal terrestrial plant and animal communities (2) Drake & Morden (Spring 2014)
[BOT 612] Plants, Animals and Islands	[BOT 612] Plants, Animals and Islands	BOT 651 Invasion Biology (3)
BOT 612 Coastal Restoration Ecology (2) Barton (Spring 2016)	[BOT 612] Biology and Evolution of Ferns and Lycophytes (2) Ranker (Spring 2009)	BOT 690 Conservation Biology (3)
[BOT 612] Plant-animal Interactions (2) Drake (Spring 2011)	[BOT 612] Plant-animal Interactions (2) Drake (Spring 2011)	BOT 750 Seamount Ecology and Fisheries (2-4) Watling (Spring 2009, Spring 2011)
[BOT 612] The Evolutionary Ecology of Plant Defense (2) Barton (Spring 2013)	[BOT 612] Pacific Biogeography (2) Keeley/Funk (Spring 2012)	GEOG 750 Research Seminar: Biogeography
BOT 612 Ecology of Microbial Symbioses (2) [was BOT 612 Ecology of Fungal Symbioses, Hynson, Fall 2014] Hynson (Fall 2015)	[BOT 612] The Evolutionary Ecology of Plant Defense (2) Barton (Spring 2013)	GEOG 752 Research Seminar: Biogeography
BOT 612 Modeling Population Dynamics in R (3) Gaoue (Fall 2016)	BOT 620 Advances in Plant Ecology Drake (Fall 2008) Pollination Ecology (2)	GEOG 758 Research Seminar: Conservation (3)
[BOT 620] Disturbance Ecology (2) Walker (Spring 2010)	BOT 661 Hawaiian Vascular Plants (3)	MBIO 715 Marine Conservation Biology (3) Hixon (Fall 2015)
Bot 620 Advances in Plant Ecology: Pollination Ecology (2) Drake (Fall 2008)	BOT 662 Advanced Systematics (4)	NREM 611 Resource and Environmental Policy (3) Oleson (Fall 2013)
BOT 644 Ethnoecological Methods (3)	BOT 661 Hawaiian Vascular Plants (3)	NREM 690 Conservation Biology (3)
BOT 650 Ecology Seminar (2)	BOT 669 [was BOT 675] Molecular Systematics and Evolution (3)	[NREM 691 (002)] Foundations of Conservation and Natural Resources (3) Lepczyk (Spring 2010)
BOT 651 Invasion Biology (3)	CMB 604 Evolutionary Genetics (2)	[NREM691] Advanced Topics in NREM: Ecology of Game Animals in Hawaii (2-3) Lepczyk (with Conant) (Spring 2012)

Ecology	Evolution	Conservation Biology
BOT 652 Population Biology (3)	[CMB 625] Advanced Topics in Genetics (2) Cann (Spring 2013)	NREM 691 Advanced Topics in NREM: Research Methods in Population Management and Conservation (3) Price (Fall 2015)
BOT 676 Environmental Physiology Seminar	CMB650 Population Genetics (3)	PEPS 675/675L Biological Control (3)
GG 639 Stable Isotope Biogeochemistry (3) Popp (Spring 2015)	CMB 680 Molecular Genetics (3)	OCN 621 Biological Oceanography (3)
IS 650 Applied Evolutionary Ecology	[IS 650] Applied Evolutionary Ecology	OEST/SOCS 735 Ocean Policy Seminar: Coral Reef Conservation (2) Rieser (Spring 2008)
MICR 680 Advances in Microbial Ecology (3)	MICR 671 Advanced Microbial Genetics (3)	[UH Hilo TCBS 600] Principles of tropical conservation biology and environmental science
NREM 612 Degredation of Ecosystems (3) Crow (Spring 2015)	PEPS 633 Insect Genetics (3)	ZOOL 690 Conservation Biology (3)
NREM 680 Ecosystem Ecology (3) [was NREM 691 (002) Litton, Spring 2008]	PEPS 662 Systematics and Phylogenetics (3)	[ZOOL 739] Topics in Ecology: Ecology of Game Animals in Hawaii (2-3) Conant (with Lepczyk) (Spring 2012)
NREM 682 (002) Restoration Ecology (3) [was NREM 691 (002) Litton, Spring 2008]	[PEPS 691] Biogeography Seminar (2)	ZOOL 750 Seamount Ecology and Fisheries (2-4) Watling (Spring 2009, Spring 2011)
[NREM 685] Landscape Ecology (Fall 2008) [was NREM 691 (001)]	TPSS 615 Quantitative Genetics (3)	ZOOL 750 Protected Areas in the Ocean, Rationale, Ecology, and Performance (2) Watling (Spring 2012)
[NREM 691 (002)] Foundations of Conservation and Natural Resources (3) Lepczyk (Spring 2010)	TRMD 705 Introduction to Bioinformatics for Life Scientists (2)	ZOOL 750 Marine Conservation Biology and Policy (3) Hixon (Spring/Fall 2013)
[NREM 691] Advanced Topics in NREM: Ecology of Game Animals in Hawaii (2-3) Lepczyk (with Conant) (Spring 2012)	ZOOL 487 (previously ZOOL 497) Molecular Ecology	
NREM 691 Advanced Topics in NREM: Forest Nutrition and Biogeochemistry (2-3) Idol (Spring 2013)	ZOOL 606/606L Principles of Animal Behavior (2/1)	
NREM 691 Advanced Topics in NREM: Research Methods in Population Management and Conservation (3-4) Price (Fall 2015, 3 credits; Spring 2017, 4 credits)	ZOOL 610 Larval Biology (3) Moran (Spring 2014)	
OCN 626 Marine Microplankton Ecology (4)	ZOOL 621 Evolutionary Ecology (4)	
OCN 627 Ecology of Pelagic Marine Animals (3)	ZOOL 714 Topics in Animal Behavior (variable)	
OCN 628 Benthic Biological Oceanography (4)	[ZOOL 719] Molecular Ecology (3) Carlson (Fall 2012)	
OCN 629 Molecular Methods in Marine Ecology (2) Wang and Steward	ZOOL 719 Evolution in Marine Systems (3) Marko (Fall 2015)	

Ecology	Evolution	Conservation Biology
PEPS 671 Insect Ecology (3)	[ZOOL 739] Theoretical Population Genetics (2-4) Karl (Fall 2007)	
PEPS 691-004 Insect Outbreaks(2) Haines (Fall 2013)	ZOOL 739 Evolutionary Ecology and Macroevolution (2) Butler (Spring 2014)	
ZOOL 606/606L Principles of Animal Behavior (2/1)	ZOOL 650 Population Genetics (3) Reed	
ZOOL 610 Larval Biology (3) Moran (Spring 2014)	ZOOL 780 Foundations of Evolution and Ecology (4) (to be taken in conjunction with ZOOL 781)	
ZOOL 620 Marine Ecology (3)	ZOOL 781 Foundations of Evolution and Ecology (4) (to be taken in conjunction with ZOOL 780)	
ZOOL 621 Evolutionary Ecology (4)		
ZOOL 623 Quantitative Field Ecology (3)		
ZOOL 652 Population Biology (3)		
ZOOL 714 *Topics in Animal Behavior (variable)		
[ZOOL 739] Fukami		
[ZOOL 739] Foundations of Ecology (2) Cowie (Fall 2009)		
[ZOOL 739] Topics in Ecology: Ecology of Game Animals in Hawaii (2-3) Conant (with Lepczyk) (Spring 2012)		
ZOOL 739 Evolutionary Ecology and Macroevolution (2) Butler (Spring 2014)		
ZOOL 780 Foundations of Evolution and Ecology (4) (to be taken in conjunction with ZOOL 781)		
ZOOL 781 Foundations of Evolution and Ecology (4) (to be taken in conjunction with ZOOL 780)		

This page last modified by Rob Cowie 14 November 2016

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