

# A Guide to Completing the Application for the University of Hawai'i at Hilo Master of Science in Tropical Conservation Biology and Environmental Science

## MS TCBES Check list

- UH Hilo Graduate application form
- Application fee, \$50
- Personal statement of objectives
- Resume
- Three professional or academic letters of recommendation
- Official transcripts from all colleges or universities (must be received in a sealed envelope)
- Baccalaureate degree transcripts from international institutions must be submitted to a [transcript evaluation service](#).
- General Test, Graduate Record Exam (must be received directly from testing agency, or in a sealed envelope if submitted with your application); UH Hilo code: 4869
- Have received confirmation of TCBES faculty sponsorship

### For International applicants:

- Official TOEFL score report, if required
- [International Graduate Student Supplemental Information Form](#)

**Priority deadline: February 1**  
**International applicants: January 1**

## Program Purpose and Goals

The primary purpose of the MS in TCBES is to provide graduate training in conservation biology and environmental science to people with baccalaureate degrees and others currently working in the field. The program will utilize the extraordinary biological, physical and cultural complexity on the Island of Hawai'i as a focus of investigation and study. The program will prepare students for technical positions and for entry into Ph.D. programs in related fields.

### Program objectives:

- Foster knowledge of current trends and issues in conservation biology and environmental sciences including basic and applied research and natural resource problems;
- Provide participants with experiences in conceptual and technical research in ecology, evolutionary genetics, geographic analysis, environmental monitoring and assessment in marine and terrestrial environments;
- Promote research and scholarly activities that will enable participants to enter the scientific research community.

### Participants of the program will:

- Perform scientific research in the interdisciplinary field of conservation biology and environmental science;
- Develop skills in natural resource and protected area management;
- Use advanced technological equipment, perform quantitative analysis and interpret complex data;
- Present scientific results in oral and written publications;
- Interpret and critique professional scientific literature.

## Application Process

Applications will be examined beginning Feb 1 for admission to the following Fall semester. After Feb 1, applications will be accepted on a space available basis until May 1.

The UH Hilo Admissions Office receives applications and supporting documents and maintains the applications through final notification. If you do not hear from us within 30 days of submission of your application, please contact the Admissions Office at 808-974-7414. Applications that meet the admission criteria will be forwarded to the TCBES Admissions Committee for a comprehensive review and consideration for admission into the program. Admission decisions made by the committee will be forwarded to the Admissions Office which sends the final notification to the applicant.

**Admission Status:** The applicant's admission status is valid only for the semester to which the applicant is accepted. Applications for students who do not register or who withdraw from the University are voided but retained for a period of one (1) year. Students may reapply for admission to the next year by submitting a new application to the Admissions Office with the application fee.

### Criteria for Admission:\*

Acceptance is granted at the discretion of the Admissions Committee based on the six criteria listed below. An applicant must:

- 1) have earned a baccalaureate degree from an accredited institution or from a nationally recognized foreign institution.
- 2) in her/his personal statement, list advisor(s) from the TCBES faculty who agrees to sponsor the application and to serve as primary advisor upon acceptance to the program.
- 3) have a minimum combined verbal and quantitative score of 1000 on the General Graduate Record Exam (GRE).
- 4) have a grade point average of 3.0 (4.0 = A scale) or the equivalent in the last four semesters of approximately 60 semester credits of undergraduate and/or in all post-baccalaureate work.
- 5) submit three letters of recommendation from references who have observed or supervised the applicant's performance and are able to comment on the quality of the applicant's academic achievement, ability to pursue graduate study, and general character.
- 6) earn a score of 550 TOEFL (paper based), 213 (computer based) or 79 (internet based), or 6.0 IELTS (for students who have not attended an English language university, or for whom English is not the primary language).

\*Recommended course work prior to admission: 2 years chemistry; 1 year calculus; 1 course in geographic information or remote sensing, 1 course in statistics; 2 courses in life sciences; 2 additional courses in physical sciences.

**Transfer of Credits:** Requests for transfer of graduate credits must be made during the first semester in which the student is enrolled in the program. Only credit hours with a grade of B or better from accredited universities are transferable. Transfer credit hours must have been completed within five years preceding the date upon which the advanced degree is to be conferred by UH Hilo, and must not have been used to satisfy requirements for another degree. The TCBES program will decide which credits will be transferred.

## Frequently Asked Questions

Cost: \$366\* per cr/hr resident tuition 2012-2013  
 \$841\* per cr/hr non-resident 2012-2012  
 Total Credits: 30 credits Plan A, 36 credits Plan B  
 \*Proposed Tuition

<http://tcbes.uhh.hawaii.edu/>

### 1. Do I need to find a faculty sponsor?

Yes, you are required to contact individual faculty members whose research interests are similar to your own and who agree to sponsor your application to the program. It is recommended that you begin faculty contact well before the application deadline. Faculty sponsorship is required for program acceptance.

### 2. How do I find a faculty sponsor?

TCBES faculty information can be found within this application and on the TCBES Program website.

### 3. How long does it take to complete the program?

The course work is designed to be completed in 3-4 semesters, with additional time needed for completing the thesis or internship.

### 4. What are the entrance requirements?

See Check List and Criteria for Admission on the first page of this form.

### 5. Do I have to take the GRE?

Yes, applicants are required to submit General GRE exam scores to UH-Hilo (UH Hilo code: 4869).

### 6. Can I transfer credits?

Yes, up to 6 credits, subject to program approval.

### 7. When will the program start?

Classes for new students begin in the fall of each year.

### 8. How much will it cost to live in Hilo?

You should budget approximately \$19,000 per year (residents of Hawai'i) and \$25,000 (non-residents) for tuition, books, housing, food, and personal expenses.

### 9. Is financial aid available?

Graduate assistantship positions may be available (contact Dr. Price: [donaldp@hawaii.edu](mailto:donaldp@hawaii.edu)). You may also contact faculty and participating agencies for financial assistance. Students interested in assistantship positions must have submitted the FAFSA; students who meet the deadline for financial aid will have priority for assistantship positions and other aid. Contact the UH-Hilo Financial Aid Office for more information (808-974-7323).

### 10. Do I need a computer?

Yes, or at least daily access to one.

### 11. Do I need to write a thesis?

Plan A requires course work and a thesis of original research. Plan B requires course work, an internship, and research papers.

| Course   | Cr  | Title  |
|--|-----|--|
| <b>Core Courses (required for all MS TCBES students):</b>      |     |  |
| 600  | 3   | Conservation Biology and Environmental Science                             |
| 601  | 3   | TCBES Field and Laboratory Methods   |
| 602  | 1   | Research Seminar in TCBES  |
| 603  | 1   | Natural Resource Management Seminar  |
| <b>Elective Courses:</b>                                       |     |  |
| <b>Plan A:</b> 16 elective credits of 600-level TCBES courses. |     |  |
| <b>Plan B:</b> 25 elective credits of 600-level TCBES courses. |     |  |
| <b>Elective Courses:</b>                                       |     |  |
| 610  | 3   | Environmental Chemical Analysis  |
| 615  | 3   | Global Environmental Change  |
| 620  | 3   | Research Techniques in Molecular Conservation Biology                      |
| 630  | 3   | Nearshore Monitoring and Analysis  |
| 633  | 3   | Biodiversity   |
| 635  | 3   | Physical Environment of Ecosystems   |
| 640  | 3   | Advanced Remote Sensing and Digital Image Processing                       |
| 645  | 3   | Applying Social Science to Marine and Coastal Resource Management          |
| 650  | 3   | Oceanographic Monitoring and Analysis                                      |
| 655  | 3   | Ecological Physiology  |
| 660  | 3   | Molecular Ecology  |
| 665  | 3   | Environmental Toxicology   |
| 670  | 3   | Advanced Techniques in Geographic Information Systems                      |
| 675  | 3   | Conservation Genetics  |
| 677  | 3   | Quantitative Ecology   |
| 680  | 3   | Advanced Statistical Analysis and Research Design                          |
| 685  | 3   | Behavioral Ecology and Evolutionary Analysis                               |
| 694  | 1-3 | Special Topics in Tropical Conservation Biology and Environmental Sciences |
| 699  | 1-3 | Directed Research  |
| <b>Thesis and Internship Courses:</b>                          |     |  |
| 690  | 3   | Internship (Plan B: 3 credits required)                                    |
| 700  | 1-6 | Thesis Research (Plan A: 6 credits required)                               |

### Core Courses (required for all MS TCBES students):

600 3 Conservation Biology and Environmental Science

601 3 TCBES Field and Laboratory Methods

602 1 Research Seminar in TCBES

603 1 Natural Resource Management Seminar

### Elective Courses:

**Plan A:** 16 elective credits of 600-level TCBES courses.

**Plan B:** 25 elective credits of 600-level TCBES courses.

### Elective Courses:

610 3 Environmental Chemical Analysis

615 3 Global Environmental Change

620 3 Research Techniques in Molecular Conservation Biology

630 3 Nearshore Monitoring and Analysis

633 3 Biodiversity

635 3 Physical Environment of Ecosystems

640 3 Advanced Remote Sensing and Digital Image Processing

645 3 Applying Social Science to Marine and Coastal Resource Management

650 3 Oceanographic Monitoring and Analysis

655 3 Ecological Physiology

660 3 Molecular Ecology

665 3 Environmental Toxicology

670 3 Advanced Techniques in Geographic Information Systems

675 3 Conservation Genetics

677 3 Quantitative Ecology

680 3 Advanced Statistical Analysis and Research Design

685 3 Behavioral Ecology and Evolutionary Analysis

694 1-3 Special Topics in Tropical Conservation Biology and Environmental Sciences

699 1-3 Directed Research

### Thesis and Internship Courses:

690 3 Internship (Plan B: 3 credits required)

700 1-6 Thesis Research (Plan A: 6 credits required)

## TCBES Faculty

**Donald Price** [donaldp@hawaii.edu](mailto:donaldp@hawaii.edu)

Ph.D. University of Illinois, Urbana-Champaign, Ecology, Ethology and Evolution, 1991.  
Professor, Biology  
Evolutionary and conservation genetics, behavioral ecology and genetics, speciation and local adaptation in insects and birds  
<http://www2.hawaii.edu/~donaldp/>

**Jason E. Adolf** [jadolff@hawaii.edu](mailto:jadolff@hawaii.edu)

Ph.D. University of Maryland College Park, 2002.  
Assistant Professor, Marine Science  
Coastal phytoplankton ecology, real-time continuous monitoring  
<http://www.plankton.uhh.hawaii.edu/>

**Norman Q. Arancon** [normanq@hawaii.edu](mailto:normanq@hawaii.edu)

Ph.D., The Ohio State University  
Assistant Professor of Horticulture  
Crop and environmental science  
<http://www.uhh.hawaii.edu/academics/cafnrm/NormanArancon.php>

**Jonathan D. Awaya** [awayaj@hawaii.edu](mailto:awayaj@hawaii.edu)

Ph.D. University of Hawai'i at Mānoa, Molecular Biosciences and Bioengineering, 2005.  
Assistant Professor, Biology  
Molecular microbiology, bioremediation, iron-trafficking pathways, secondary metabolite production  
[www2.hawaii.edu/~awayaj](http://www2.hawaii.edu/~awayaj)

**Jim Beets** [beets@hawaii.edu](mailto:beets@hawaii.edu)

Ph.D. University of Georgia, Zoology, 1990.  
Associate Professor, Marine Science  
Marine ecology, fish/fisheries ecology, ecological monitoring

**Kathryn Besio** [besio@hawaii.edu](mailto:besio@hawaii.edu)

Ph.D. University of Hawai'i at Mānoa, Geography, 2001.  
Associate Professor, Geography  
Cultural geography, tourism, nature-society relations  
<http://www.uhh.hawaii.edu/depts/geography/faculty.php>

**Daniel Brown** [dbrown@hawaii.edu](mailto:dbrown@hawaii.edu)

Ph.D. Cornell University, Anthropology, 1978.  
Professor, Anthropology; Interim Vice Chancellor for Research.  
Human environmental physiology, stress, health risk, Pacific population emphasis  
<http://www.uhh.hawaii.edu/%7EAnthro/dbrown.htm>

**Leng Chee Chang** [lengchee@hawaii.edu](mailto:lengchee@hawaii.edu)

Ph.D. University of Illinois at Chicago, Natural Products Chemistry, 1998.  
Assistant Professor, Pharmacy  
Isolation, characterization, and biological evaluation of natural products of marine and microbial origin

**Steven Colbert** [colberts@hawaii.edu](mailto:colberts@hawaii.edu)

Ph.D. University of Southern California, Geological Sciences 2004  
Assistant Professor Marine Science  
Coastal hydrogeology, nutrient and element cycling in the subterranean estuary  
<http://www2.hawaii.edu/~colberts>

**Abby Cuttriss** [abbyc@hawaii.edu](mailto:abbyc@hawaii.edu)

Ph.D. Australian National University, 2006  
Assistant Professor, Biology  
Plant molecular biology, development, environmental stress and pigments  
<http://www.hawaii.edu/uhhbiology/index.php?page=person&id=52>

**Donna M. Delparte** [delparte@hawaii.edu](mailto:delparte@hawaii.edu)

Ph.D. University of Calgary, 2008.  
Assistant Professor, Geography  
Geographic Information Science, terrain and flow modeling, 3D visualization

**Marta deMaintenon** [demainte@hawaii.edu](mailto:demainte@hawaii.edu)

Ph.D. UC Berkeley, Integrative Biology, 1996.  
Associate Professor & Chair, Marine Science;  
Affiliate Graduate Faculty of EECB (UH-Mānoa)  
Phylogeny, biogeography and evolution of gastropod molluscs  
<http://inverts.uhh.hawaii.edu/>

**Patrick Hart** ([pjhart@hawaii.edu](mailto:pjhart@hawaii.edu))

Ph.D. University of Hawai'i at Mānoa, Zoology & Ecology, Evolution, and Conservation Biology, 2000.  
Assistant Professor, Biology  
Ecology and conservation-Hawaiian forests/forest birds  
<http://www2.hawaii.edu/~pjhart/>

**Maria Haws** [haws@aol.com](mailto:haws@aol.com)

Ph.D. Texas A&M Univ., Wildlife & Fisheries Sciences, 1993.  
Associate Professor, CAFNRM  
Extension Specialist, University of Hawai'i Sea Grant Program; Pearl research, aquaculture, marine invertebrates, coastal zone management, natural resources policy, international economic development

**Kevin Hopkins** [hopkins@hawaii.edu](mailto:hopkins@hawaii.edu)

Ph.D. Auburn University, Fisheries & Allied Aquacultures, 1979.  
Professor, Aquaculture, CAFNRM; Interim Director of the Pacific Aquaculture & Coastal Resources Center  
Aquaculture and fisheries development including their environmental impacts  
<http://www.uhh.hawaii.edu/~pacrc>

**Susan Jarvi** [jarvi@hawaii.edu](mailto:jarvi@hawaii.edu)

Ph.D. Northern Illinois University, Biological Sciences, 1989.  
Associate Professor, Pharmaceutical Sciences  
Host-parasite co-evolution, avian disease systems

**James O. Juvik** [jjuvik@hawaii.edu](mailto:jjuvik@hawaii.edu)

Ph.D. University of Hawai'i at Mānoa, Geography, 1977.  
Professor & Chair, Geography  
Climatology, fog forest ecosystems, biogeography  
<http://www.uhh.hawaii.edu/depts/geography/faculty.php>

**Ernest Kho** [ekho@hawaii.edu](mailto:ekho@hawaii.edu)

Ph.D. UC-Santa Cruz, Organic Chemistry, 1978.  
Associate Professor, Chemistry  
Marine natural products chemistry, isolation and characterization of organic molecules from marine organisms

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Ph.D., University of Puerto Rico, 1999.  
Assistant Professor, Forestry  
Forest soil ecology, carbon sequestration of tropical forests,  
tropical silviculture and forest ecosystem restoration

**Bruce Mathews** [bmathews@hawaii.edu](mailto:bmathews@hawaii.edu)

Ph.D. University of Florida, Agronomy and Soils, 1992.  
Professor, Soil Science & Agronomy  
Environmental agronomy, nutrient cycling, water quality,  
grassland management  
<http://www.uhh.hawaii.edu/academics/cafnrm/faculty/mathews.php>

**William J. Mautz** [mautz@hawaii.edu](mailto:mautz@hawaii.edu)

Ph.D. Cornell Univ., Ecology and Evolutionary Biology, 1979.  
Professor & Chair, Biology  
Environmental toxicology, physiological ecology of reptiles  
and amphibians  
<http://132.160.51.185/biology/index.php?page=person&id=14>

**Fiona McCormack** [fionam@hawaii.edu](mailto:fionam@hawaii.edu)

Ph.D. University of Auckland, 2006.  
Assistant Professor, Anthropology  
Fisheries (indigenous; traditional management tools;  
regulations; property rights)

**Karla McDermid** [mcdermid@hawaii.edu](mailto:mcdermid@hawaii.edu)

Ph. D. University of Hawai'i at Mānoa, Botanical Sciences, 1988.  
Professor, Marine Science  
Seaweed/seagrass taxonomy, ecology, biogeography and  
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**Jon-Pierre Michaud** [jonpierr@hawaii.edu](mailto:jonpierr@hawaii.edu)

Ph.D. University of Arizona, Toxicology & Pharmacology, 1994.  
Associate Professor & Chair, Chemistry  
Toxicology, environmental chemistry, pesticides in water and  
biota, epidemiology of volcanic fog (vog)  
<https://www.uhh.hawaii.edu/academics/chemistry/>

**Jene Michaud** [jene@hawaii.edu](mailto:jene@hawaii.edu)

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Ph.D. Simon Fraser University, 1998.  
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Associate Professor, Biology (UH-Hilo);  
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Structure and nutrient dynamics of tropical forest ecosystems  
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Cognition: Marine Mammal Science, 1994.  
Assistant Professor, Psychology and Biology. Marine mammal  
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Biology, 2006.  
Assistant Professor, Biology  
Fungal evolution, systematics and taxonomy, phylogeography,  
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**Jonathan Price** [jpprice@hawaii.edu](mailto:jpprice@hawaii.edu)

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**Michael Shintaku** [shintaku@hawaii.edu](mailto:shintaku@hawaii.edu)

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Plant virology  
<http://www.uhh.hawaii.edu/~shintaku/>

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Assistant Professor, Biology  
Plant population biology, evolutionary genetics, and speciation  
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2000.  
Assistant Professor, Marine Science  
Coral reef ecology, coral molecular biology, marine microbial  
molecular biology  
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**Jason Turner** [jturner@hawaii.edu](mailto:jturner@hawaii.edu)

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Assistant Professor, Marine Science  
Marine ecology, trophic dynamics of food webs, biochemical  
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**Tracy Wiegner** [wiegner@hawaii.edu](mailto:wiegner@hawaii.edu)

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Associate Professor, Marine Science  
Carbon, nitrogen, and phosphorus cycling in freshwater and  
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