

# 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
- Personal statement of objectives
- Application fee, \$50
- Three professional or academic letters of recommendation
- Official transcripts from all colleges or universities (must be received directly from the institution, or in a sealed envelope if submitted with your application)
- Transcripts from international institutions must be submitted to a transcript evaluation service. See list at

[www.uhh.hawaii.edu/academics/graduate/](http://www.uhh.hawaii.edu/academics/graduate/)

- 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
- Verification of financial status

[www.uhh.hawaii.edu/pdf/fss.pdf](http://www.uhh.hawaii.edu/pdf/fss.pdf)

(all materials except for official transcripts and test scores should be sent directly to the Admissions Office)

## 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) (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. The TCBES program will decide which credits will be transferred.

## Frequently Asked Questions

Cost: \$264 per credit hour current resident tuition  
 \$608 per credit hour non-resident tuition  
 Total Credits: 30 credits Plan A, 36 credits Plan B  
 2008-2009 Academic Year

<http://www2.hawaii.edu/~tcbes/>

1. **Do I need to identify 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 front 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, 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?**  
 Hawai'i residents should budget approximately \$15,000 per year for tuition, books, housing, food, and personal expenses. Non-residents should budget \$20,000.
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

**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.

**Director TCBES Graduate Program;**

co-Project Director, Hawaii NSF EPSCoR Program;  
Associate Professor, Biology (UH-Hilo)  
EECB Program (UH Manoa)

Evolutionary and conservation genetics, behavioral ecology and  
genetics, speciation and local adaptation in insects and birds

<http://www2.hawaii.edu/~donaldp/>

**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

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

Ph.D. University of Illinois at Chicago, Natural Products  
Chemistry.

Assistant Professor, Pharmacy

Isolation, characterization, and biological evaluation of natural  
products of marine and microbial origin

**Walter Dudley** [dudley@hawaii.edu](mailto:dudley@hawaii.edu)

Ph.D. University of Hawaii at Manoa, Geological Oceanography,  
1976.

Professor, Marine Science

Tsunami waves, anchialine pond conservation

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

Ph.D. Cornell University, Anthropology, 1978.

Professor, Anthropology; Coordinator of Research and Graduate  
Studies

Human environmental physiology, stress, health risk, Pacific  
population emphasis

<http://www.uhh.hawaii.edu/%7EAnthro/dbrown.htm>

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

Ph.D. UC Berkeley, Integrative Biology, 1996.

Associate Professor, Marine Science; Affiliate Graduate Faculty  
of Ecology, Evolution & Conservation Biology (UH-Manoa)

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 Hawaii at Manoa, Zoology (Ecology,  
Evolution, and Conservation Biology) 2000.

Assistant Professor, Biology

Ecology and conservation-Hawaiian forests/forest birds

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

Ph.D. Texas A&M Univ., Wildlife & Fisheries Sciences, 1993.

Director, Pearl Research and Training Program; Co-Deputy  
Director, Sustainable Coastal Communities and Ecosystems  
Program; Extension Specialist, University of Hawaii Sea Grant  
Program; Associate Professor, CAFNRM

Aquaculture, marine invertebrates, coastal zone management,  
natural resources policy, international economic development

**Don E. Hemmes** [hemmes@hawaii.edu](mailto:hemmes@hawaii.edu)

Ph.D. University of Hawaii at Manoa, Microbiology, 1970.

Professor, Biology

Systematics of fleshy fungi of Hawaii

**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, Biology

Host-parasite co-evolution, avian disease systems

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

Ph.D. University of Hawaii at Manoa, Geography, 1977.

Professor, Geography

Climatology, fog forest ecosystems, biogeography

**Sonia Juvik** [juvik@hawaii.edu](mailto:juvik@hawaii.edu)

Ph.D. Australian National University, 1981.

Professor, Geography

Land use planning, environmental conflict and the role of the  
state in natural resources management

**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

**Yiqing Li** [yiqing@hawaii.edu](mailto:yiqing@hawaii.edu)

Ph.D., University of Puerto Rico

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/](http://www.uhh.hawaii.edu/academics/cafnrm/faculty/mathews.php)

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

Ph.D. Cornell University, Ecology and Evolutionary Biology,  
1979.

Professor, Biology

Environmental toxicology, physiological ecology of reptiles and  
amphibians

<http://132.160.51.185/biology/index.php?page=person&id=14>

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

Ph. D. University of Hawaii at Manoa, Botanical Sciences, 1988.  
Professor, Marine Science  
Seaweed/seagrass taxonomy, ecology, biogeography and chemical composition, marine education

**Jon-Pierre Michaud** [jonpierr@hawaii.edu](mailto:jonpierr@hawaii.edu)

Ph.D. University of Arizona, Toxicology and Pharmacology, 1994.  
Associate Professor, Chemistry  
Toxicology, environmental chemistry, pesticides in water and biota, epidemiology of volcanic fog (vog)

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

Ph.D. University of Arizona, Hydrology, 1992.  
Associate Professor, Geology  
Hydrology, watersheds, geomorphology, modeling

**Cam Muir** [cmuir@hawaii.edu](mailto:cmuir@hawaii.edu)

Ph.D. Simon Fraser University, Institute for Molecular Biology & Biochemistry, 1998.  
Assistant Professor, Biology  
Ecological genetics/conservation genetics, phylogeography, and local adaptation of endemic Hawaiian fauna  
<http://www2.hawaii.edu/~cmuir>

**Rebecca Ostertag** [ostertag@hawaii.edu](mailto:ostertag@hawaii.edu)

Ph.D. University of Florida, Botany, 1998.  
Associate Professor, Biology (UH-Hilo);  
Ecology, Evolution & Conservation Biology (UH-Manoa)  
Structure and nutrient dynamics of tropical forest ecosystems  
<http://www2.hawaii.edu/~ostertag>

**Sun Park** [sunypark@hawaii.edu](mailto:sunypark@hawaii.edu)

Ph.D. University of Kansas, Geography, 2003.  
Assistant Professor, Geography  
MODIS issues, thermal infrared remote sensing, hyperspectral remote sensing, land cover classification, and landscape ecology

**Jonathan Price** [jpprice@hawaii.edu](mailto:jpprice@hawaii.edu)

Ph.D. University of California at Davis  
Geography, 2002  
Assistant Professor of Geography  
Biogeography and landscape/vegetation ecology

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Ph.D. Stanford University, Biochemistry, 1979.  
Associate Professor, Biology (UH-Hilo);  
Cell and Molecular Biology (UH-Manoa)  
Yeast nuclear DNA replication, *C. elegans* development and signaling  
<http://www2.hawaii.edu/~leonh/scott.htm>  
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**Michael Shintaku** [shintaku@hawaii.edu](mailto:shintaku@hawaii.edu)

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Associate Professor, Plant Pathology  
Plant virology  
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Ph.D. Boston University, Ecology, Behavior, and Evolution, 2001.  
Assistant Professor, Biology  
Plant population biology, evolutionary genetics, and speciation

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Ph.D. University of Queensland, Centre for Marine Studies, 2000.  
Assistant Professor, Marine Science  
Coral reef ecology, coral molecular biology, marine microbial molecular biology  
[www.marinegenetics.uhh.hawaii.edu](http://www.marinegenetics.uhh.hawaii.edu)

**Jason Turner** [jpturner@hawaii.edu](mailto:jpturner@hawaii.edu)

Ph.D. Texas A&M University, Wildlife and Fisheries, 2004.  
Assistant Professor, Marine Science  
Marine ecology, trophic dynamics of food webs, biochemical tracers  
<http://foodweb.uhh.hawaii.edu>

**Tracy Wiegner** [wiegner@hawaii.edu](mailto:wiegner@hawaii.edu)

Ph.D. Rutgers University, Oceanography, 2002.  
Assistant Professor, Marine Science  
Carbon, nitrogen, and phosphorus cycling in freshwater and marine environments

**Sharon Ziegler-Chong** [ziegler@hawaii.edu](mailto:ziegler@hawaii.edu)

M.S. University of South Carolina, Biology 1991.  
Associate Director, Pacific Aquaculture and Coastal Resources Center (PACRC); Unit Leader, Hawaii Cooperative Studies Unit (USGS BRD)  
Experiential education, environmental internships, Pacific Islands, agency contacts in Hawai'i and Pacific region  
<http://www.uhh.hawaii.edu/~pacrc> and  
<http://www.uhh.hawaii.edu/uhintern>