The Marine Science program at the University of Hawai‘i at Hilo is designed to take full advantage of the Big Island of Hawai‘i’s variety of marine environments ranging from deep ocean to coral reef to estuary. An exciting array of ocean activities are planned. These activities are designed to stimulate the student’s interest, provide experience-oriented learning and take full advantage of the island’s exotic offerings.

The Island of Hawai‘i is a treasure of unique diversity. With its sometimes snow-capped mountain peaks, pasture lands, lush tropical rain forests, rainbow-arched valleys, and active volcanoes, the Big Island has been described as a tropical mini-continent. An internationally renowned site for astronomical observation, the island is also home of the world-famous Hawaiian Volcanoes Observatory. The island boasts beaches of black, white or green sand providing uncrowded access to pristine waters. Scientists and visitors alike are afforded the possibility of observing glowing red lava flowing into the sea from coastal vents. The Big Island is twice the size of all the other Hawaiian Islands put together and unsurpassed in beauty by any other island in the Hawaiian chain. From its people who carry with them the “Aloha Spirit” to the richness of its lands, the Big Island of Hawai‘i is the perfect place to spend the summer learning about the wonders of the sea.

The University of Hawai‘i at Hilo, fully accredited by the Western Association of Schools and Colleges, is a part of the Hawai‘i system of higher education. Its programs emphasize accessibility to facilities and instructors in a small campus atmosphere. Teaching is a priority concern of all UH Hilo Faculty. Professors are encouraged to involve students in their own research and publications; as a result, UH Hilo students do very well in graduate school. UH Hilo Marine Science Faculty also tap into the rich cultural heritage and environmental resources of the Big Island in such programs as the Marine Science Department, the Marine Option Program, and the Marine Science Summer Program.

Combining an ideal environment, excellent curriculum, outstanding instructors, its own new laboratory and classroom building, and research/teaching vessel, the UH Hilo Summer Marine Science Program is one of the best opportunities in the nation for undergraduates to study marine science. In recognition of this exceptional summer program the UH Hilo Summer Marine Science Program has received an “Award for Excellence of Program” from the Western Association of Summer School Administrators, an organization representing over 80 member universities in the western U.S., Canada, and Mexico.
## Summer 2018 Marine Science Course Offerings

### Courses with Special Schedules, May 13-26, 2018

<table>
<thead>
<tr>
<th>CRN</th>
<th>CR</th>
<th>Course</th>
<th>SEC</th>
<th>Title</th>
<th>Days</th>
<th>Times</th>
<th>Location</th>
<th>Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>12158</td>
<td>3</td>
<td>MARE 264</td>
<td>001</td>
<td>QUEST</td>
<td>UMTWRFS</td>
<td>8:00a-10:00p</td>
<td>Ke‘ei</td>
<td>L. Parr</td>
</tr>
<tr>
<td>12160</td>
<td>3</td>
<td>MARE 364</td>
<td>001</td>
<td>Adv. QUEST</td>
<td>UMTWRFS</td>
<td>8:00a-10:00p</td>
<td>Ke‘ei</td>
<td>L. Parr</td>
</tr>
</tbody>
</table>

### Summer Session I: May 21-June 15, 2018

<table>
<thead>
<tr>
<th>CRN</th>
<th>CR</th>
<th>Course</th>
<th>SEC</th>
<th>Title</th>
<th>Days</th>
<th>Times</th>
<th>Location</th>
<th>Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>12157</td>
<td>3</td>
<td>MARE 240</td>
<td>001</td>
<td>Small Boat Operations</td>
<td>TR</td>
<td>1:00p-5:00p</td>
<td>MSB 104</td>
<td>S. Kennedy</td>
</tr>
</tbody>
</table>

### Summer Session II: June 18-July 27, 2018

<table>
<thead>
<tr>
<th>CRN</th>
<th>CR</th>
<th>Course</th>
<th>SEC</th>
<th>Title</th>
<th>Days</th>
<th>Times</th>
<th>Location</th>
<th>Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>12155</td>
<td>3</td>
<td>MARE 140</td>
<td>001</td>
<td>Intro to Hawaiian Coral Reefs</td>
<td>MTRF</td>
<td>10:00a-11:45a</td>
<td>W 5</td>
<td>J. Sims</td>
</tr>
<tr>
<td>12156</td>
<td>1</td>
<td>MARE 140L</td>
<td>001</td>
<td>Intro to Hawaiian Coral Reefs Lab</td>
<td>W</td>
<td>1:00p-5:00p</td>
<td>MSB 104</td>
<td>J. Sims</td>
</tr>
<tr>
<td>12159</td>
<td>3</td>
<td>MARE 294</td>
<td>001</td>
<td>Special Topic: MARE</td>
<td>MTRF</td>
<td>2:00p-3:45p</td>
<td>MSB 101</td>
<td>J. Sims</td>
</tr>
<tr>
<td>12161</td>
<td>3</td>
<td>MARE 380</td>
<td>001</td>
<td>Natural History of Sharks &amp; Rays</td>
<td>MTRF</td>
<td>8:00a-9:50a</td>
<td>MSB 103</td>
<td>J. Turner</td>
</tr>
<tr>
<td>12162</td>
<td>1</td>
<td>MARE 380L</td>
<td>001</td>
<td>Natural History of Sharks Lab</td>
<td>F</td>
<td>6:00p-10:00p</td>
<td>MSB 104</td>
<td>J. Turner</td>
</tr>
<tr>
<td>12163</td>
<td>3</td>
<td>MARE 444</td>
<td>001</td>
<td>Biological Oceanography</td>
<td>TR</td>
<td>1:00p-4:30p</td>
<td>MSB 103</td>
<td>J. Turner</td>
</tr>
<tr>
<td>12164</td>
<td>3</td>
<td>MARE 490</td>
<td>001</td>
<td>Sea Turtle Conservation &amp; Ecology</td>
<td>MTRF</td>
<td>10:00a-12:00p</td>
<td>MSB 103</td>
<td>J. Turner</td>
</tr>
<tr>
<td>12165</td>
<td>1</td>
<td>MARE 490L</td>
<td>001</td>
<td>Sea Turtle Conservation &amp; Ecology Lab</td>
<td>M</td>
<td>1:00p-5:00p</td>
<td>MSB 103</td>
<td>J. Turner</td>
</tr>
</tbody>
</table>
MARE 140, Introduction to Hawaiian Coral Reefs, 3 credits - Ms. Jennifer Sims
Explore the underwater world of the Big Island of Hawaiʻi while learning about unique marine ecosystems found nowhere else on Earth. Students will acquire an appreciation for local aquatic fauna in the classroom including the basics of marine biology and natural history. Pre: Concurrent enrollment in MARE 140L is required.

MARE 140L, Introduction to Hawaiian Coral Reefs Lab, 1 credit – Ms. Jennifer Sims
Students will enter the natural laboratory that is Hawaiʻi and investigate coral reefs, coastal beaches and tide pool systems with mask, snorkel and fins. Learn to identify common marine inhabitants while enjoying an unparalleled educational experience under the sea. Concurrent enrollment in MARE 140 is required. (Attributes: GAHP, HPP)

MARE 240, Small Boat Operation in Marine Research, 3 credits - Captain Stephen Kennedy
This course is intended to provide the novice boater with skills needed to safely operate and conduct research from a small boat. Topics include: state and federal regulations, safety, navigation, small boat handling, and conducting research operations. The course will consist of lectures, lab sessions, and time on the water in a small boat. Participants must be able to swim. Pre: Instructor’s consent.

MARE 264, Quantitative Underwater Ecological Survey Techniques, 3 credits – QUEST - Team
Students who enroll in QUEST will learn commonly utilized nearshore underwater ecological surveying techniques and then apply these in the field using SCUBA as a research tool. Students will review the identification of common Hawaiian reef invertebrates, fishes and seaweeds. They will be introduced to scientific diving methodology and a variety of surveying techniques including visual surveying of fishes, surveying of benthic invertebrates, and photographic surveying of fishes and invertebrates. Additional lectures will cover basics in experimental design, statistical analysis, data reduction, graphic representation, reef geomorphology, sedimentology and physical oceanography. Students will utilize SCUBA in the field to survey the coral reefs on the Kona side of Hawaiʻi. This class affords students a unique opportunity to learn and apply diving research techniques in a truly beautiful environment. Admission by advance consent of the instructors and authorization as a scientific diver in training before the start of the course is required. $700 lab fee payable upon registration. Special application due Feb. 28. Full details available at the Marine Option Program QUEST website http://www.uhhmop.hawaii.edu/quest/ or email uhhmop@hawaii.edu for information.

MARE 294, Special Topic: Marine Environmental Policy, 3 credits – Ms. Jennifer Sims
Course Objectives:
• To learn about biodiversity, resource management, and conservation of oceans
• To learn about international laws and treaties that affect marine ecosystems and practices
• To learn about U.S. laws and policies that affect marine ecosystems and practices
• To focus learning on topics in Hawaii: marine mammal, shark, and marine reptile conservation policies, enforcement, and specialized state laws

MARE 364, Advanced Quantitative Underwater Ecological Survey Techniques, 3 credits - Team
Students who have completed MARE 264 with at least a “B” grade may apply for admission to Advanced QUEST. Applicants who are accepted, will be assigned as dive team leaders for the basic QUEST course (MARE 264) and will be trained in
team leadership and management skills. In this leadership role, advanced QUEST students will work with the diving safety officer and course faculty to monitor the safe diving practice of each member of their team. Team leaders will also assist in training students in identification of organisms. They will supervise the dive teams’ recording of data in the field as well as subsequent data analysis, and anchor the team's written report and oral presentation, and provide leadership for the team in all aspects of the QUEST experience. Admission by advance consent of the instructors and authorization as a scientific diver in training before the start of the course required. $200 lab fee payable upon registration. Special application due Feb. 28. email uhhmop@hawaii.edu for information.

MARE 380, Natural History of Sharks and Rays, 3 credits - Dr. Jason Turner
This course will examine the natural history of the Elasmobranchs, an ancient group of fishes that have existed for almost 450 million years. Comprehensive investigations of sharks, rays, skates, sawfishes, and chimera, along with representative species from Hawaiʻi, will be conducted. Subjects will include evolution, taxonomy, anatomy, physiology, ecology, conservation and management of these unique animals. Discussions of current research papers along with group research projects will be covered during lectures Pre: MARE 171 or instructor’s consent.

MARE 380L, Natural History of Sharks, Rays, and Skates Lab, 1 credit - Dr. Jason Turner
This course will further examine Elasmobranchs using a hands-on approach to compliment the work done in Lecture using both laboratory and field-based activities. Laboratory sessions will involve detailed dissections of shark, ray, skate, and chimera functional anatomy. Students will also participate in a tagging study of coastal shark species throughout the Big Island of Hawaii. Pre: Concurrent enrollment in MARE 380.

MARE 444, Biological Oceanography, 3 credits – Dr. Jason Turner
This course focuses on the interaction of phytoplankton, zooplankton, and pelagic organisms in the open ocean environment. Students will learn aspects of plankton taxonomy, physiology, and pelagic population dynamics. Students will survey the current research status of the field using primary literature. The student’s knowledge will then be applied to the study of local and global productivity and tropho-dynamics. Pre: junior standing, MARE 265 and CHEM 162 or instructor’s consent.

MARE 490, Sea Turtle Conservation & Ecology, 3 credits - Dr. Jason Turner
All-encompassing look at the natural history of these ancient marine vertebrates. Topics include investigations of sea turtles, sea snakes, saltwater crocodiles and marine iguanas throughout the world. Subjects will consist of conservation and management, human impacts, reproductive and feeding ecology, evolution, taxonomy, and anatomy and physiology of these unique marine animals. Pre: MARE 265 or equivalent or instructor’s consent.

MARE 490L, Sea Turtle Conservation & Ecology Laboratory, 1 credit - Dr. Jason Turner
Field and lab techniques employed by sea turtle biologists including shore and underwater photo-surveys, forage surveys, and evaluation of nests and hatchlings. Investigations will focus on local species of sea turtles. Pre: MARE 490 or concurrent enrollment.

Please contact individual course instructors directly with questions, or general questions can be addressed to the Marine Science Chair, Marta deMaintenon demainte@hawaii.edu.
Mr. Stephen Kennedy, Boating Program Coordinator and Master Makani Aha, is a US Coast Guard veteran with over 13 years of active duty service and holds multiple merchant mariner credentials and Coast Guard certifications. Serving on a variety of small boats as a vessel operator throughout the west coast, he ultimately earned the Coast Guard’s highest certification for a vessel operator, Surfman. Following enlistment, he worked for a non-profit organization as a motorboat operator’s certification course (MOCC) instructor throughout California, Oregon, and Washington. Staying in the maritime field, he worked as a contracted vessel operator for NOAA on the Columbia River in support of Salmon research. Safe boating practices are vital to productive research and the goal of the boating program is to expose students to requirements necessary to conduct safe and effective research from the University’s fleet of vessels. sjkenned@hawaii.edu

Ms. Lisa Parr** holds a Bachelor’s Degree in Biology with an Emphasis in Oceanography from CSU Humboldt, and a Master’s Degree in Environmental Studies from the University of Tasmania, Australia, with a focus on shorebirds and Antarctic seabirds. As an Instructor in the Marine Science Department, as well as Site Coordinator for the UH Hilo Marine Option Program and QUEST program, her teaching philosophy is predicated on Applied and Experiential Learning, which is central to many of her classes, including upper division courses in teaching marine science and curriculum design, and Senior Internship. She received an ALEX award for Excellence in Teaching in 2014-15. lparr@hawaii.edu

Ms. Hoku Pihana is currently working on her MS in tropical conservation biology and environmental science at UHH. Hoku holds a BA in Marine Science from UHH and is the program coordinator of the Keaholōa STEM Scholars Program and is a board member for the non-profit organization, Na Maka o Papahanaumokuakea as well as part of the Cultural Working Group for Papahanaumokuakea. Hoku is currently teaching Marine Science at UH Hilo during her last year of graduate school and aims to attain a career in marine resource management. pihana@hawaii.edu

Ms. Jennifer Sims is a broadly trained biologist working at UH Hilo in the Departments of Marine Science and Biology. She has been working in biological research and academics for the past 14 years, with a Bachelor’s Degree in Marine Biology and a Master’s Degree in Environmental Biology. Jennifer has been involved in a wide variety of research programs including medical research, shrimp mariculture, molecular and population genetics, and marine mammal biology. turnerjs@hawaii.edu

Dr. Jason Turner**, Associate Professor of Marine Science at UH Hilo, is a marine biologist who has conducted research on marine mammal biology, sea turtle ecology, connectivity of aquatic food webs and feeding studies in larval and juvenile fishes, and has conducted fisheries surveys throughout the Gulf of Mexico. Dr. Turner has published research results in scientific papers in marine biology, marine ecology, and marine mammal journals. jpturner@hawaii.edu Website - http://www.foodweb.uhh.hawaii.edu/

QUEST FACULTY and STAFF
Ms. Lisa Parr** – QUEST Coordinator, 364 Instructor
Mr. Jeff Kuwabara – QUEST Co-Coordinator, Faculty Diver, Photographic sampling techniques leader
Mr. Matt Connelly – QUEST Logistics Coordinator
Ms. B.K. Griesemer* – QUEST Beachmaster
Ms. Donna Brown – QUEST Staff Diver, Marine Algae
Dr. John Burns – QUEST Faculty Diver, Coral reef ecology
Ms. Cori Kane – QUEST Faculty Diver, Fish ecology
Ms. Yuko Stender - QUEST Faculty Diver, Coral Reef Ecology
Dr. Ross Langston - QUEST Faculty Diver, Fish Ecology

*Recipient of the University of Hawai‘i Board of Regents Medal for Excellence in Teaching.
**Recipient of the University of Hawai‘i Frances David Award for Excellence in Teaching.
**Registration Information**

**Application and Registration Process**

1. Submit application, www.hilo.hawaii.edu/studentaffairs/admissions/. Academic transcripts are not required. Once your application is received and your information is entered into the student database, you will be notified by mail.

2. Upon notification of completion of the application (generally 5 business days), obtain a UH username and password at https://myuh.hawaii.edu

3. Official web registration begins at 8:00 a.m. on April 9, HST.

Need assistance? For questions on the application process, call the Admissions Office at (808) 932-7446 or toll-free at 1-800-897-4456, or email uhadmis@hawaii.edu. For questions regarding login or password, contact the UH ITS Help Desk at help@hawaii.edu or call (808) 956-8883 or toll free from the neighbor islands at 1-800-558-2669, Monday-Thursday from 8:00 a.m.-9:30 p.m. and Friday from 8:00 a.m.-4:30 p.m.

**Transfer Credits**

If you are currently enrolled at another college or university and intend to transfer credits from UH Hilo to your home institution, you are encouraged to secure advance approval of your UH Hilo course selections from your home institution. Even though courses at UH Hilo are fully accredited and are generally accepted for transfer credit, decisions on transferability rest with the receiving college or university.

**Grade Reports**

You may access your grade results through MyUHPortal. A paper copy will not be sent to you. You may obtain an official transcript of your academic record by filing a written request at the Business Office. A fee of $5 is charged in advance for each transcript requested. For complete information, go to http://hilo.hawaii.edu/registrar/transcripts

**Tuition and Fees**

Tuition and fees for the 2018 Summer Session are:

- Undergraduate Resident: $300 per credit
- Undergraduate Non-resident: $435 per credit*
- Graduate Resident: $479 per credit
- Graduate Non-resident: $631 per credit
- Student Life Center fee: $35
- Lab and Other Fees: Varies

*For Summer 2018, the Board of Regents has approved a special rate for the Western Undergraduate Exchange (WUE) and for Pacific Island students. The rate is $367.50 per credit for those students who have completed paperwork.

**Payment Options**

Payment is due the day you register. Verify the amount you owe through MyUHPortal. Your amount due will appear in your account summary.

Payments can be made by:

- MyUH Online: Pay by MasterCard, VISA, or any credit card accepted by the Discover Network (Discover, Diners, and JCB) pinless debit card or web check (checking or savings account).
- Mail: Make checks payable to “University of Hawai‘i at Hilo”.
  Mail to: UH Hilo Cashier’s Office 200 W. Kawili St. Hilo, HI 96720
  To ensure proper crediting to your account, write your UH number on the bottom left corner of the check.
  - In Person: Pay by cash, check, money order, or cashier’s check at any campus business office.
  - Parents and Other Authorized Users: If you have been set up as an Authorized User, you may log on to the Authorized User site with your email address and password provided to you.

**Housing**

http://hilo.hawaii.edu/housing/
email: uhhhouse@hawaii.edu
Phone: (808) 932-7403

**Meal Plan**

http://www.uhhcampusdining.com/
Phone: (808) 932-7352

**For additional information, contact:**

UH Hilo, College of Continuing Education & Community Service 200 W. Kawili Street Hilo, HI 96720-4091
Phone: (808) 932-7830
Fax: (808) 932-7831
Email: ccecs@hawaii.edu
Summer: http://hilo.hawaii.edu/depts/summer
What Marine Science students have to say about the program:

“Great experience – very beneficial skills learned that I feel like I can actually apply to my career.” In reference to QUEST

“This course is life changing! I would recommend it in a heartbeat.” In reference to QUEST

“It was a wonderful experience, I learned so much.”

“Instead of just staying in the classroom, we were able to get out and have hands on experience.”

“Professors were excellent and very friendly and personable. They added so much to the class material.”

“I think that the subject matter was perfect.”

“I loved turtle tagging — it was such a wonderful experience and I learned so much.”

“I loved being on the boat!”

“Great classes!”

“My favorite classes that I’ve ever taken.”

“Awesome!”