University of Hawai'i
WINDWARD
Community College

SYLLABUS

AQUA 201 The Hawaiian Fishpond

03 Credit Hours CRN 62109 Hoʻokuaʻāina Cohort
Summer 2022 -July 6 to August 12, 2022

Mondays 11:30 am to 4:00 pm and Wednesdays Online synch/asych 11:30 to 2:30 pm

Instructor: Kumu Lisa Hinano Rey
Office: Zoom Meeting Room Meeting ID: 808 111-3333
Office hours: Wednesdays 3 pm- 4 pm and by appointment
Contact: hinano.rey@hawaii.edu or SMS at 808-389-4979 (9am-5pm)

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawaiʻi and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide the Koʻolau region of Oʻahu and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

CATALOG DESCRIPTION

An introduction into the history, development, biology and ecology, management, restoration, and future of Hawaiian fishponds. This course will study traditional Hawaiian fishponds, merging traditional knowledge with the principles of modern Western science.

CULTURE PRINCIPALS

Ma ka hana ka ʻike. In working one learns.
E aloha kekahi i kekahi. Love one another.
ʻAʻohe hana nui ke alu ʻia. No task is too big when done together by all.
ʻAʻohe pau ka ʻike i ka hālau hoʻokahi. All knowledge is not learned in just one school.

REQUIREMENTS SATISFIED BY THIS CLASS

May partially satisfy requirements for the University of Hawaiʻi Marine Option Program Certificate as a marine-related elective.

May partially satisfy subject certificate in Ahupuaʻa Systems: Indigenous Resource management and Food Production.

Serves the Collegeʻs general education requirements as DB (biological science diversification requirement) and DY (natural science laboratory requirement).

STUDENT LEARNING OUTCOMES

The learning outcomes for AQUA 201 course are:

1. Explain the process and philosophical basis of scientific inquiry.
2. Distinguish between the types of traditional Hawaiian fishponds, the history of their construction and use throughout the Hawaiian Islands, how and where they were constructed, their operation and management, their characteristics, and their biota.
3. Describe the oceanography, biology and ecology of Hawaiian fishponds.
4. Describe the basic principles of aquaculture, including pond dynamics, feeding regimes, cultivated species propagation and growth, disease management, production, harvesting and maintenance.
5. Discuss the status of Hawaiian fishponds in modern times, including their restoration and their future.

COURSE CONTENT

AQUA 201

1.The philosophy and characteristics of science and the scientific method.
2.The characteristics of living things, how they are classified and named.
3.Basic ecological principles, especially those applying to aquatic ecosystems and fishponds.
4.The types of traditional Hawaiian fishponds, the history of their construction and use throughout the Hawaiian islands, how and where they were constructed, their operation and management (stocking, cultivation, harvesting and maintenance), their characteristics, and their biota.
5.The oceanography of Hawaiian fishponds (water circulation, stratification, water chemistry and properties, sediment composition and characteristics, and biogeochemical cycles).
7.The biology of important fishpond species, especially their modes of nutrition, life cycles, and interactions with other fishpond species as well as their physical environment.
8.The basic principles of aquaculture, including pond dynamics, feeding regimes, and cultivated species.
9.Propagation and growth, disease management, production, harvesting and maintenance.
10. The operation and functioning of the fishpond in the ahupuaʻa.
11. The integration between traditional practices and modern aquaculture methodologies.
12. Hawaiian utilization of fishpond species.
13. Modern fishpond problems (disuse and natural degradation, agricultural and urban development, pollution, and invasive species).
14. Hawaiʻi fishpond restoration: approaches, problems and possible solutions, and examples of restoration projects.
15. The future of Hawaiian fishponds: whether they will become mere interesting archeological curiosities or they will represent models of sustainability for the future.

COURSE TASKS ASSESSMENT AND GRADING

RESEARCH PAPER. The student will complete a formal library research report on a Fishpond topic. A good research topic will cross disciplines providing scientific, historical, and cultural information. Specific details on the format of this report will be presented in class (50 points total).

GROUP PROJECT. The student will work with assigned groups on a video project on a topic of their choice. Specific details on the project will be presented in class (50 points total).

ATTENDANCE. The student participation in 5 Field Lab work days at Waikalua Loko Iʻa on Mondays is required (20 points each; 100 points total)

ASSIGNMENTS. The student will show up to the synchronous portion of the class and submit the daily assignment(s) by the end of the period. (20 points x 5 100 total)

QUIZZES. The student will take two quizzes (25 points each; 50 points total) during specified time periods. These quizzes will address the detailed content and major concepts presented in the lectures, lecture outlines, text readings, and study guide activities.

DISCUSSION POSTS The student will compose a meaningful response (15 points each) to each discussion topic on Laulima and post responses to at least two classmates posts per topic (5 points each). There will be four discussion topics for a total possible points of 100.

EXAMINATIONS. The student will take one midterm examination (50 points) and a noncumulative final examination (50 points) during specified time periods to demonstrate understanding of information presented primarily during lectures but also including assigned readings.

A student missing an exam because of an illness or legitimate emergency may take a make-up exam as soon as possible after the student returns from the illness and as determined by the instructor. In such a circumstance, the student should make every

reasonable attempt to contact the instructor before the exam period is over (or as soon as possible). While make-up exams will cover the same content area as a missed exam, the exam format and specific questions may be different.

GRADING

Letter grades will be assigned as follows:
A 90% or above in total points.
B 80-89.9% of total points.
C 65-79.9% of total points.
D 55-64.9% of total points.
F Below 55% of total points or informal or incomplete official withdrawal from course.
I Incomplete; given at the INSTRUCTOR'S OPTION when student is unable to complete a small part of the course because of circumstances beyond his or her control. It is the STUDENT'S responsibility to make up incomplete work. Failure to satisfactorily make up incomplete work within the appropriate time period will result in a grade change for "I" to the contingency grade identified by the instructor (see catalog).
CR 65% or above in total points; the student must indicate the intent to take the course as CR/NC in writing by the end of the 10th week of classes (see catalog).
NC Below 65% of total points; this grade only available under the CR/NC option (see above and see catalog). N NOT GIVEN EXCEPT UNDER EXTREMELY RARE CIRCUMSTANCES(e.g., documented serious illness or emergency that prevents the student from officially withdrawing from the course); never used as an alternative for an "F" grade.
W Official withdrawal from the course after the third week and prior to the end of the 10th week of classes (see catalog).

Waiver of minimum requirements for specific grades may be given only in unique situations at the instructor's discretion. Students involved in academic dishonesty will receive an "F" grade for the course. Academic dishonesty is defined in WCC's college catalog.

LEARNING RESOURCES

Required Textbook:
Wyban, C.A., 1992. Tide and Current: Fishponds of Hawai‘i. University of Hawai‘i Press, Honolulu. 192 pp.

Supplemental Reading (some of these, or sections of them, may be made available by the instructor or can be found in the WCC electronic library):

Apple, R. and W.K. Kikuchi, 1975. Ancient Hawaii shore zone fishpond: An evaluation of survivors for historical preservation. Washington, D.C.: National Park Service, 175 pp.

DHM Planners, Inc., 1989. Hawaiian fishpond study: Islands of O‘ahu Moloka‘i, and Hawai‘i. Prepared for Hawaii Coastal Zone Management Program, Office of State Planning, Office of the Governor in collaboration with Bernice Pauahi Bishop Museum Applied Research Group: Honolulu, HI.

Dieudonne, F., 2002. The Pacific Islands and the Sea: 350 Years of Reporting on Royal Fishponds, Coral Reefs and Ancient Walled Fish Weirs in Oceania.

Dudley, M.K., 1990. A Hawaiian Nation I: Man, Gods, and Nature. Nā Kāne O Ka Malo Press, Honolulu, Hawai‘i. 151 pp.

Farber, J.M., 1997. Ancient Hawaiian Fishponds: Can Restoration Succeed on Molokai? Neptune House Publications. Encinitas, California. 99 pp.

Gon, S., & Winter, K. (2019). A Hawaiian Renaissance That Could Save the World. *American Scientist, 107*(4), 232. doi:10.1511/2019.107.4.232

Henry, L.L., 1993. He‘eia fishpond Loko Ia 0 He‘eia. An interpretive guide for the He‘eia state park visitor. An educational project of the friends of He‘eia State Park. The State Foundation of Culture and the Arts, Ke‘Alohi Press. 48 pp.

Kamehameha Schools Hawaiian Studies Institute, 1994. Life in Early Hawai‘i: The Ahupua‘a. Kamehameha Schools Press, Honolulu, 59 pp.

Kane, H.K., 1988. Hawaiian Fishponds: the Fascinating History of Hawaiian Aquaculture. Historic Hawaii , 14(6):5.
Keala, G., 2007. Loko I'a: A Manual on Hawaiian Fishpond Restoration and Management. College of Tropical Agriculture and Human Resources, University of Hawai'i. 74 pp.

Kikuchi, W.K., 1976. Prehistoric Hawaiian fishpond. Science, 193:295-299.

Kirch, P.V., 1985. Feathered Gods and Fishhooks: An Introduction to Hawaiian Archaeology
and Prehistory. University of Hawaii Press, Honolulu, HI, 349 pp.

Sato, V.T., and C-S Lee, 2007. Keeper of Mōli'i Pond: An Informal Account of George Uyemura and His Amazing Hawaiian Fishpond. Oceanic Institute, Waimānalo, HI 148 pp.

Tamaru, C.S., C. Caristrom-Trick, and CE. Helsley, 1998. Aquaculture in Hawaii: Lessons from the Past. In: CE. Helsley (ed.), Open Ocean Aquaculture '97: Charting the Future of Farming. Proceedings of an International Conference, April 23-25, 1997, Maui, Hawaii. University of Hawaii Sea Grant College Program, Honolulu, HI. pp. 257-298.

Titcomb, M., 1972. Native Use of Fish in Hawaii. University of Hawai'i Press, Honolulu, Hawai'i, 175 pp.

Titcomb, M., 1978. Native Use of Marine Invertebrates in Old Hawaii. Pacific Science, 32(4): 325-386.

Yamamoto, M.N., and A.W. Tagawa, 2000. Hawai'i's Native & Exotic Freshwater Animals. Mutual Publishing, Honolulu, Hawai'i, 200 pp.

Stickney, R.R., 2000. Encyclopedia of Aquaculture. Wiley. 1088 pp. McLarney, W., 1998. Freshwater Aquaculture: A Handbook for Small Scale Fish Culture in North America. 2nd ed. Hartley & Marks. 602 pp.

Handouts and selected readings from various texts will also be distributed in class or through the Internet.

STUDENT RESPONSIBILITIES

The student is expected to attend and actively participate in all course lectures and activities, and complete all assignments, quizzes and examinations on time. The student is expected to be able to attend online sessions via zoom platform.
The student is expected to be prepared in advance before the class sessions. Being prepared includes the following: having read text materials (e.g., textbook readings and other resources) assigned for that day's activities and bringing required work materials (e.g., textbook, handouts, writing supplies, etc.) to the session. Any changes in the course schedule, such as examination dates, deadlines, etc., will be announced ahead of time in class. It is the student's responsibility to be informed of these changes. It is the student's responsibility to be informed about deadlines critical to making registration changes (e.g., last day of erase period and last day for making an official withdrawal). When difficult concepts and detailed information are presented, it is the student's responsibility to take the appropriate steps to learn and understand these concepts and information.

Courses at WCC generally require two to three hours of independent private study time for each hour in class. It is the student's responsibility to allocate the appropriate time needed for study in an environment conducive to quality study. The student must budget time efficiently and be realistic about all personal and professional commitments that consume time.

There is one Hawaiian chant that students will be required to recite during the course. It was written by Auntie Edith Kanaka'ole of the Big Island and it is called E HO MAI

Commentary by Ivan M. Granger: Years ago, when I lived in Hawai'i, I took a class in ho'oponopono. (If you sound it out slowly, it's not the tongue-twister it first looks like.) Ho'oponopono means literally "to make things right, to return things to harmony." It is a traditional healing method, but its emphasis is not on healing the body as it is on healing relationships, families, communities. If you think about it, what is the purpose of a healthy body except as an instrument to work for a healthier society? The small body serves the larger body. As part of my training in ho'oponopono, I learned this chant. Hawaiian chant can be compared to Hindu Sanskrit mantra in that to truly say it properly can take a great deal of training. The inflections are important. The breath is important. Most of all, the sense of personal presence is important.

E ho mai Ka ike mai luna mai e
O na mea huna no eau
O na mele e
E ho mai E ho mai E ho mai

Grant us knowledge from above, All the wisdom of the songs. Grant, Bestow, Grant us these things. This Hawaiian chant must be said with force and with heart. It is a prayer, but it is not passive. It is a calling forth, a reaching out and a drawing in -- of wisdom, of knowledge, of truth. It evokes in us pono, rightness. Try sounding out the Hawaiian. Slowly at first, until the sounds become familiar. Then louder, with confidence. Say it over and over again. Imagine repeating this chant in a group. Let it ring through your body and your day! If you want to hear it chanted, check out these links:
http://apps.ksbe.edu/kscholars/oli/ehomai
http://www.youtube.com/watch?v=32vcntOp0i4

Students are expected to participate in all lecture activities and complete all course assignments on time.

The student will not succeed in this class without taking careful lecture notes and reading the corresponding material in the assigned readings. As soon as possible (best if done on the same day), the student should copy over these lecture notes filling in gaps and missing information by referring to the textbook and other resources provided. The student should carefully review these rewritten lecture notes as often as possible.

The student should do all of the recommended study guide activities and review all of the Internet resource materials provided.

Students are recommended to establish study groups and study together. The students in these groups may test each other's knowledge and understanding of the information. They may also take turns teaching each other.

The student should ask the instructor to explain the things that the student does not understand.

The instructor is happy to meet with students by appointment to offer any assistance necessary, just email hinano.rey@hawaii.edu.

Utilize a variety of community RESOURCES Family, Friends, Acquaintances.

AQUA 201L The student is strongly encouraged to provide tabis, sunscreen, hat, sunglasses, gloves etc. for the field outings.

DISABILITIES ACCOMMODATION STATEMENT

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help you succeed in this class. Roy Inouye can be reached at (808) 235-7448, royinouy@hawaii.edu, or you may stop by Hale Kākoʻo 106 for more information.

Sex Discrimination and Gender Based Violence Resources (Title IX)

Windward Community College is committed to providing a learning, working, and living environment that promotes personal integrity, civility, and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking.

If you or someone you know is experiencing any of these, WCC has staff and resources to support and assist you. To report an incident of sex discrimination or gender-based violence, as well as receive information and support, please contact one of the following:

Student Life Counselor & Designated Confidential* Advocate for Students
Phone: (808) 235-7354
Email:
Office: Hale ʻĀkoakoa 232
*confidentiality is limited

Desrae Kahale, Mental Health Counselor & Confidential Resource
Phone: (808) 235-7393
Email: dkahale3@hawaii.edu
Office: Hale Kākoʻo 101

Karla K. Silva-Park, Title IX Coordinator
Phone: (808) 235-7468
Email: karlas@hawaii.edu

Office: Hale ʻĀkoakoa 220

As a member of the University faculty, I am required to immediately report any incident of sex discrimination or gender-based violence to the campus Title IX Coordinator. Although the Title IX Coordinator and I cannot guarantee confidentiality, you will still have options about how your case will be handled. My goal is to make sure you are aware of the range of options available to you and have access to the resources and support you need.

For more information regarding sex discrimination and gender-based violence, the University's Title IX resources and the University's Policy, Interim EP 1.204, go to manoa.hawaii.edu/titleix/

Alternate Contact Information

If you are unable to contact the instructor, have questions that your instructor cannot answer, or for any other issues, please contact the Academic Affairs Office:

- Location: Alakaʻi 121
- Phone: (808) 235-7422