



UNIVERSITY of HAWAII®
WINDWARD
COMMUNITY COLLEGE

SCI 295, Introduction to STEM Research in Ethnobotanical Pharmacognosy
1-4 Credits (CRN 63475 & 63476)

Synchronous – Online & Hybrid Course

9:00 am – 11:00 am, Wednesday (other days via emails as needed)

INSTRUCTOR: Prof. Emerita, Dr. Ingelia White
OFFICE: Hale Imiloa 112 A
OFFICE HOURS: Wednesday, 8:30 am – 11:00 am or by appointment
TELEPHONE: 808 236 9102
EMAIL: ingelia@hawaii.edu
EFFECTIVE DATE: Fall/2022

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

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

CATALOG DESCRIPTION

SCI 295, CRN 63475 and CRN 63476 offers research experience in science, emphasizing the application of the scientific method to a specific research project. 1 to 4 credits.

Research projects of CRN 63475 and CRN 63476 include pharmacognostical research of plants (antimicrobial properties, nutritional values), plant-based product manufacturing (observational study) and food pharmacy. This course is designed to train students for careers in plant biological and medical – related sciences and/or becoming nutraceutical entrepreneurs. Lecture and laboratory/field work course.

REQUIREMENT COURSE SATISFIES:

AT WCC:

- AA Lib Arts and ASNS (DB, DY)
- Certificate of Achievement in Agripharmatech: Ethnopharmacognosy
- Certificate of Competence in Agripharmatech: Plant-Food Production and Technology

AT UHM:

- Bachelor of Science Degree Program in Plant and Environmental Biotechnology. Accepted as an elective for the following specializations: Plant Biotechnology, General Biotechnology, and Environmental - Microbial Biotechnology.
- Bachelor of Science Degree Program in Ethnobotany (as an elective)

Activities Required at Scheduled Times Other Than Class Times

Prepare literature research, conduct lab and field research, collect/analyze data, provide lab reports (Power Point or poster) and other home assignments and participate in extra-curricular activities (pending Covid pandemic situation in the semester).

STUDENT LEARNING OUTCOMES

1. Discuss theories and principles in the study of medicinal and nutritious plants
2. Discuss ethics, intellectual property rights and conservation of traditional knowledge
3. Perform Laboratory exercises: plant extraction, drying, bioassay tests for use in nutraceutical product manufacturing and food pharmacy
4. Produce lab reports (Power Point or poster) using the standard scientific format (Introduction, Methods, Observation/Discussion)

COURSE CONTENT

COURSE GOALS: Upon completion of this course, you should have a basic understanding and technical competency in identifying, analyzing medicinal and nutritional values of the plants; preparing nutraceutical plant-based products and food pharmacy.

COURSE OBJECTIVES: You will demonstrate knowledge and understanding of theories and concepts of diet-health care and diseases, ethics and researcher behavior, intellectual property rights, and conservation of traditional knowledge; laboratory/field methodology in identifying, selecting and collecting medicinal plants for lab research and nutraceutical product preparations.

COURSE TASKS

The evaluation of the student's achievement of course objectives will be based upon lecture, laboratory and field participation, laboratory reports, research project presentations, and take home final exam as described below:

Lecture and laboratory/field participations and home assignments (100 points)

You will actively participate in all lectures (through Zoom meetings), laboratory (Imiloa 101 or 106) and field activities at the Bioprocessing Medicinal Garden Complex (BMGC) or in your own garden. Because of the difficulties in resetting up laboratory material/protocol, students missing a regularly scheduled lab activity cannot be given an alternative assignment. Failure to participate in scheduled laboratory sessions will result in a 5-point deduction for each session missed (unless presenting a doctor's note or notify the instructor). Students missing more than 3 three-hour lab sessions will not receive credit for the course.

Laboratory Reports (100 points)

You will submit lab reports. Lab (modules) reports are accumulated and are due one week before the final exam.

Research Project- Power Point presentation (100 points)

Individual student project will be discussed and approved by the instructor.

Examination (100 points)

One essay take home (open book) exam.

Extra-curricular activity (50 points)

Prepare plant-based products and food pharmacy for a special Agripharmatech program event (pending Covid situation). Event date will be announced in the class. Or a visit to medicine shops/pharmacies/markets.

ASSESSMENT TASKS AND GRADING

Lecture, lab/field participations & assignments	100 points
Research project (PP or poster presentation)	100 points
Final take home exam	100 points
<u>Extra-curricular activity</u>	<u>50 points</u>
Total	350 points

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/informal/incomplete official withdrawal from the course
 I..... Incomplete; given at the **instructor’s option** when you are unable to complete a small part of the course because of circumstances beyond your control. It is your 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 contingency grade identified by the instructor (see catalog).
 CR.....65% or above in total points; you must indicate the intent to take the course as CR/N in writing (see catalog).
 NC.....below 65% of total points; this grade only available under the CR/N option (see above and see Catalog).
 N.....not given by this instructor, except under extremely rare circumstances (e.g. documented serious illness or emergency that prevents you from officially withdrawing from the course); never used as an alternative for an “F” grade.
 W..... official withdrawal from the course **without a “W”** Grade (09/13/2022). Last day to withdraw **with a “W”** Grade (10/31/2022) (see catalog). Waiver of minimum requirements specific grades will be given only in unique situations at the instructor’s discretion.

STUDENT RESPONSIBILITIES:

You are expected to participate in all lectures (through Zoom meetings and your hawaii.edu emails) and lab/field activities. Be prepared in advance when you arrive to the lab. Being prepared includes the following: having already read text materials (e.g. handout reading) assigned for that day’s activities. Wear masks, goggles, lab coats, and gloves. Disinfect your lab stations before and after leaving the lab. Any changes in the course schedule, such as field trip or lab activity and exam date, will be announced ahead of time in class or email. It is your responsibility to be informed of these changes. Check your hawaii.edu emails regularly for announcements.

LEARNING RESOURCES

White, I. et al. 2019. Ethnopharmacognosy Series VI: Collection of Nutraceutical Plants at Bioprocessing Medicinal Garden Complex. Windward Community College. 52 pp.

Sumner, J. 2000. The Natural History of Medicinal Plants. Timber Press, Portland, Oregon. This book is no longer printed, but can be purchased through eBay or Amazon. Handouts (Some chapters of this book used in lectures only) will be distributed in class for you.

ADDITIONAL INFORMATION

About the Agripharmatech program:

- <https://www.hawaii.edu/news/2014/03/11/windward-offers-unique-agripharmatech-progam/>

About the instructor:

- <https://www.hawaii.edu/news/2016/05/16/ingelia-white-honored-for-vocational-teaching-excellence/>
- <http://www.midweek.com/wcc-botanists-unveil-many-splendors-bidens-pilosa-l/>

TRIO SSS provides tutoring assistance, printing etc. Please contact Roy Inouye at 235-7448 or Napio or Rachelle at 235-7487.

MySuccess: Students also may receive extra help or advising through MySuccess. Students can also explore resources at MySuccess.Hawaii.edu and windward.hawaii.edu/MySuccess

DISABILITIES ACCOMMODATIONS

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 Accessibility 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 Kāko‘o 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:

Kaahu Alo, Student Life Counselor & Designated Confidential* Advocate for Students

Phone: (808) 235-7354

Email: kaahualo@hawaii.edu

Office: Hale ‘Ākoakoa 232

**confidentiality is limited*

Desrae Kahale, Mental Health Counselor & Confidential Resource

Phone: (808) 235-7393

Email: dkahale3@hawaii.edu

Office: Hale Kāko‘o 101

Karla K. Silva-Park, Title IX Coordinator

Phone: (808) 235-7468

Email: karlas@hawaii.edu

Office: Hale Kako‘o 128

UH CONFIDENTIAL ADVOCATE

UH Confidential Advocate

Phone: (808) 348-0663

Email: advocate@hawaii.edu

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/

ACADEMIC INTEGRITY

Work submitted by a student must be the student's own work. The work of others should be explicitly marked, such as through use of quotes or summarizing with reference to the original author.

Students can upload papers to <http://www.TurnItIn.com> to have papers checked for authenticity, highlighting where the paper potentially fails to appropriately reference sources.

In this class, students who commit academic dishonesty, cheating or plagiarism will have the following consequence(s):

Students will receive a failing grade for plagiarized assignments.

All cases of academic dishonesty are referred to the Vice Chancellor for Student Affairs.

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: Alakai 121

Phone: 808-235-7422

Email: wccaa@hawaii.edu