Quantitative Health and Clinical Research Graduate Program

Graduate Student Handbook

2024-2025

Department of Quantitative Health Sciences
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University of Hawai'i at Mānoa
651 Ilalo Street, MEB 411
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Revised: November 2024

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Introduction

This handbook describes the basic policies, requirements, and procedures for graduate students pursuing a Master's of Science degree in Quantitative Health and Clinical Research and/or a Graduate Certificate in Clinical Research. As a graduate student in this program, you should read and become familiar with this handbook so that you are clear about your responsibilities as a student in the program and the responsibilities of the program to you. If you have any questions about any of the information presented herein, please contact your Academic Advisor, the Graduate Program Chair or the Graduate Program Administrator. The earlier you clarify any matter of concern to you, the less likely it will create any problems later. Ignorance of graduate program or university regulations and procedures is not a valid excuse. The faculty and staff of the graduate program wish you great success in pursuing your educational goals.

In addition to offering knowledge and skills needed for careers in quantitative health and clinical research, the program functions as a supportive mechanism for newly trained investigators, actively facilitating career development and encouraging research collaborations, particularly those related to health disparities research. By providing high quality training, the program aims to increase the critical mass of clinical and translational research at the University of Hawai'i, including its minority investigators. Prospective students include junior faculty, fellows, residents, and other students from health sciences, natural sciences and physical sciences. The interdisciplinary nature of the program broadens students' perspectives and increases opportunities for innovative, cross-disciplinary collaborations in clinical and translational research. Graduates of the program pursue research and research support careers in academia, government laboratories, healthcare organizations, and pharmaceutical companies.

Regarding long-term career outlook and job opportunities for program graduates, the Bureau of Labor Statistics predicts that the employment in clinical and associated research will grow overall by 13% and in mathematics and statistics will grow by 33% in the U.S. from 2016 to 2026. The State of Hawai'i projects a higher (34.8%) growth rate in medical scientists, and a 13.9% growth rate in computer and mathematics-related occupations.

Graduate Program Overview

The Department of Quantitative Health Sciences' (DQHS) graduate program is designed to equip its graduates with skills for successful careers in quantitative health sciences and clinical research. The program is currently offered in two ways – a Master of Science in Quantitative Health and Clinical Research (MSQHCR) (2 year program) and a Graduate Certificate in Clinical Research (GCERT-CR) (2 semester program).

The Master's program offers two tracks – Clinical Research (CR) and Quantitative Health Sciences (QHS). Designed to provide the training, tools, and skills for advanced data analysis, the program will enable students to address health disparities and other translational health initiatives through ethical research. This is a unique program offered in Hawai'i for individuals interested in pursuing research and research support careers in academia, government laboratories, healthcare organizations, and pharmaceutical companies.

The GCERT-CR is ideal for medical trainees, gap-year students, and health professionals. Credits earned through the GCERT-CR can be transferred to the MSQHCR if students opt to pursue an MS degree.

Graduates of our programs pursue research and research support careers in academia, government laboratories, healthcare organizations, and pharmaceutical companies. In addition to offering knowledge and skills needed for careers in quantitative health and clinical research, the graduate program is an effective educational opportunity for newly trained investigators, actively facilitating career development and encouraging research collaborations, especially related to health disparities research. By providing high-quality training, the program aims to increase the critical mass of clinical research at the University of Hawai'i, including its minority investigators. Prospective students include junior faculty, fellows, residents, and other students from health sciences, natural sciences and physical sciences.

Graduate Program Faculty

Name	Home Department or Center	Research Interests
Regular Graduate Faculty		
Hyeong Jun Ahn, Ph.D.	DQHS	Categorical data analysis, biostatistics
Amy Brown, Ph.D.	DQHS	Nutrition and diseases, plant extracts, dietary supplements
John J. Chen, Ph.D.	DQHS	Applied statistics
James Davis, Ph.D.	DQHS	Biostatistics, epidemiology
Youping Deng, Ph.D.	DQHS	Bioinformatics, cancer genomics, data mining
Yuanyuan Fu, PhD	DQHS	Bioinformatics, cancer epidemiology, public health
Vedbar Khadka, Ph.D.	DQHS	Bioinformatics, systems biology, cancer, biostatistics, data mining
Eunjung Lim, Ph.D.	DQHS	Biostatistics, large data analytics, clinical trials
Chathura Siriwardhana, Ph.D.	DQHS	Nonparametric and Semiparametric Methods, Survival Analysis, Statistics in Genomics, Health Research Design
Munirih Taafaki, M.S.	DQHS	Clinical research, regulatory and ethics; cultural competency
Cooperating Graduate Faculty		
Jared Acoba, M.D.	Cancer Center	Medical oncology. translational and clinical cancer research
William Boisvert, Ph.D.	Medicine	Cardiovascular research
Mariana Gerschenson, Ph.D.	CMB	Mitochondrial medicine, metabolic and neurological diseases
Jerris Hedges, M.D.	Dean's Office	Medical education, emergency medicine
Brenda Hernandez, Ph.D.	Cancer Center	HPV-induced carcinogenesis, ethnic disparities in cancers
Claire Townsend Ing, Ph.D.	Native Hawaiian Health	Social determinants of health disparities, CBPR
Lynn Iwamoto, M.D.	Pediatrics	Pediatrics
Bliss Kaneshiro, M.D.	OB-GYN	Unintended pregnancy, contraceptive use
Joseph Keawe'aimoku Kaholokula, Ph.D.	Native Hawaiian Health	Native Hawaiian health
Sandi Kwee, M.D.	Cancer Center	Cancer detection, positron emission tomography
Men-Jean Lee, M.D.	OB-GYN	Maternal-fetal medicine; obstetrics and gynecology
Loic Le Marchand, Ph.D.	Cancer Center	Epidemiology, cancer research
Kamal Masaki, M.D.	Geriatrics	Geriatric Medicine
Alika Maunakea, Ph.D.	CMB	Epigenetics, transcriptional regulation, chromatin biology
Vivek Nerukar, Ph.D.	Tropical Medicine	Pathogenesis of infectious diseases, cellular and molecular mechanisms underlying microbe-host interaction
Jun Panee, Ph.D.	CMB	Selenoproteins and natural products as antioxidants

Cooperating Graduate Faculty		
Noemi Polgar, Ph.D.	Anatomy, Biochemistry & Physiology	Molecular interactions of the extracellular matrix in health and disease; risk factors and pathomechanisms of Type 2 diabetes.
Marie Fialkowski Revilla, Ph.D.	Human Nutrition	Nutrition, child health assessment
Beatriz L Rodriguez, M.D., Ph.D.	Geriatrics	Epidemiology, chronic diseases
Ralph Shohet, M.D.	Medicine	Molecular medicine
Reni Soon, M.D.	OB-GYN	Reproductive health
Andy Stenger, Ph.D.	Medicine	Neurosciences, particle astrophysics
Deborah Taira, Sc.D.	Pharmacy Practice, UH Hilo	Health economics, cost-effectiveness analysis and health disparities
Michelle Tallquist, Ph.D.	Medicine	Cardiovascular biology and birth defects
W. Steve Ward, Ph.D.	Anatomy	Sperm physiology and genetics, assisted reproduction technology
Bradley Wilcox, M.D.	Geriatrics	Aging research
Wilkens, Lynne	Cancer Center	Biostatistics
Kelley Withy, M.D., Ph.D.	Family Medicine	Family medicine
Yan Yan Wu, Ph.D.	Public Health	Longitudinal and hierarchical data analysis - mixed models, multivariate analysis, graphical models, survival analysis, asymptotic inference, statistical genetics & genetic epidemiology

Affiliate Graduate Faculty		
Kore Liow, M.D.	Hawai'i Pacific Neuroscience	Neuroscience, Alzheimer's dementia, seizures/epilepsy, Parkinson's Disease, neurodegenerative diseases, multiple sclerosis
Jason Viereck, M.D.	Hawai'i Pacific Neuroscience	Neuroscience; Alzheimer's dementia, Parkinson's Disease, neurodegenerative diseases, multiple sclerosis

Graduate Program Administration

Email: qhcr@hawaii.edu **Telephone: (808) 692-1840**

Name	Designation	Email Address	Phone No.
Chathura Siriwardhana, PhD	Graduate Chair	cksiri@hawaii.edu	(808) 692-1817
Eunjung Lim, PhD	Department Chair	lime@hawaii.edu	(808) 692-1814
Munirih Taafaki, MS, CCRP	Program Administrator	mtaafaki@hawaii.edu	(808) 692-1812
Michael Castillo	Department Institutional Support	mdcastil@hawaii.edu	(808) 692-1465

Master of Science Graduate Program Overview

The Master of Science in Quantitative Health and Clinical Research (MSQHCR) program is currently offered with two tracks, both available in either Plan A (thesis option) or Plan B (capstone project option):

1. Clinical Research (CR)
2. Quantitative Health Sciences (QHS)

The CR track focuses on the study of methods suitable to investigate clinical research topics. Students will develop the ability to conduct clinical research, understand and apply ethical principles ensuring the protection of human study participants, and learn about the purpose and operations of Institutional Review Boards, and relevant federal regulations and requirements. Potential careers fields in this track include physician researcher, clinical research coordinator, regulatory coordinator, clinical trial manager, study monitor and compliance officer.

The QHS track is designed to help meet the critical need of quantitative health scientists in the healthcare workforce of Hawai'i, the Pacific region, and globally. The QHS track contributes to a field that requires specific analytic skills. Students learn research design and advanced data analysis skills and tools, including large data analytic approaches, for health science research and research design. They will master the scientific principles and methodologies that underlie basic science, and clinical and translational research methods. The QHS track will prepare them for future careers in areas such as biostatistics, bioinformatics, healthcare data analysis, and clinical outcomes analysis.

MS Admission Requirements

Requirements for admission into the Master of Science in Quantitative Health and Clinical Research graduate program (after completion of undergraduate degree):

- Curriculum Vitae
- Personal statement with career goals
- Undergraduate (and Medical School, if applicable) GPA 3.2 or greater
- Undergraduate level course requirements: one semester biology and one semester of pre-calculus, or equivalent coursework as determined by the Graduate Program Committee
- At least three professional or academic letters of recommendation
- Professional exams such as GRE and MCAT within the last 5 years, with scores above 50th percentile of the national average
- Post-secondary institution transcripts
- International applicants with a non-English background: TOEFL (at least 90 for iBT and 570 for PBT) or IELTS (at least 7 on 9-point scale)

Note: We do not require the GRE (or MCAT) scores for admission. However, we encourage applicants who have taken the GRE (or MCAT) to submit their scores.

How to Apply

Please visit the University of Hawai'i at Mānoa Graduate Division website to fill out an online application.
https://manoa.hawaii.edu/graduate/quantitative-health-and-clinical-research/

MS Academic Advising

Each student will be assigned to an Academic Advisor during the course of his/her study. The role of the Academic Advisor includes but is not limited to:

- Serve as the point of contact between the student and the graduate program.
- Communicate to the graduate faculty committee student's progress, any relevant concerns, changes, or situations that may affect the student (e.g., leave of absence, medical concerns).
- Meet with the student at least once during each semester to evaluate the student's performance and to ensure that all requirements are progressing on schedule.
- Outline the program of study for the student.
- Update and revise program of study as needed.
- Provide the student with advice to help achieve academic and career goals.
- Advise on course selection and registration for the student and verify accuracy
- Make sure class registrations are timely.
- Maintain student documentation and keep the student database accurate.
- Lead in the development and implementation of remediation plans (academic and/or clinical), as needed.
- Perform student exit interview and go over checklist before graduation.
- In the event a situation cannot be resolved by the faculty and advisee, the Graduate Program Chair and the Executive Graduate Program Committee will be included to help resolve the issue.

MS Program Requirements

Master's Plan A (Thesis Option)

Initial Conference with Graduate Program Chair - Pre-Candidacy Progress (Form 1)

- During the first week of the first semester
- Appointment of an interim academic advisor
- Selection of specialization within the graduate program i.e. Clinical Research Track or Quantitative Health Sciences Track
- Date of preliminary conference (initial advising) with the interim academic adviser

Preliminary Conference(s) with Interim Academic Adviser

- During the first month of the first semester
- If any academic deficiencies are identified, a remediation plan will be developed between the interim academic advisor and the student
- Relevant sections of the Pre-Candidacy Progress (Form 1) will be used for the purpose of developing a remediation plan. The completed Form 1 will be submitted to the Graduate Division.

Coursework Requirements *(the general credit requirements and the program core course requirements are the same for both tracks, but the track specific required courses are different for the two tracks. Please see section on curricula for details)*

- 34 total credit hours for the MS program
- 24 credit hours of approved didactic core and elective course work (must be taken for an A-F letter grade)
- 2 credit hours of seminar component (A-F grade)
- Minimum of 8 credit hours of research component (at least 6 credits from BIOM 700; other credits can be from BIOM 699 or QHS 699)

Master's Plan A Thesis Committee

- Selection of a permanent advisor by the end of the first year who will also serve as the chair of the thesis committee
- Appointment of at least two other members of graduate faculty to the thesis committee
- Preparation of individualized timeline for MS Plan A

Master's Plan A Advance to Candidacy (Form 2)

- Appointment of thesis committee (if appointing a non-graduate faculty to the committee, attach justification and a current CV of the faculty)
- Approval of a research topic (Attach the appropriate approval(s) as necessary. See below.)
- Results of the second foreign language exam (if required)
- Submit this form prior to registering for Thesis 700 or before the first day of instruction during the semester of registration.
- Registration in Thesis 700 is allowed only after this form and all necessary attachments have been received and approved by the UH Graduate Division.

- Consists of a written proposal. The proposal should be based on the student's thesis research project, engaging in hypothesis driven research.
- Submission of the thesis topic and proposal to the thesis committee for review and approval as early as possible
- Written proposal and proposal seminar should be completed by the end of the third semester of the student's training
- The proposal should be prepared in consultation with the student's thesis advisor and thesis committee members
- The format of the written thesis proposal will be specified by the thesis committee, but should follow the general format of a grant proposal to a federal funding agency (e.g., NIH), including project summary and relevance, background and significance, specific aims, research design and methods, and preliminary studies.
- Upon approval from thesis committee, the Advance to Candidacy Form (Form 2) can be submitted to the Graduate Division.
- If the proposal is not approved, the student must resubmit proposal within 3 months. Failure to submit an approved proposal may result in dismissal from the graduate program and the Graduate Division.

Note: Approval for Research Topics - As required by federal, state and university regulations, University of Hawai'i at Mānoa (UHM) students who intend to conduct research that involves the use of subjects listed below must check with their respective academic departments, the Office of Research Services, and the appropriate office(s) listed below for approval and guidance. Depending on the nature of the research project, the student may need to obtain specific certification, approvals, and guidance as required, e.g.:

- Human Studies Program [Phone: (808) 956-5007]
- Environmental Health & Safety Office [Phone: (808) 956-8660]
- Institutional Animal Care and Use Committee [Phone: (808) 956-4446]

Master's Plan A Thesis Defense / Final Examination (Thesis Evaluation (Form 3) and Thesis Submission (Form 4)

- The final defense is an oral examination open to the public, during which the student of a thesis demonstrates to their committee satisfactory command of all aspects of the work presented and other related subjects, if applicable.
- The defense is required for Master's Plan A students.
- Exam conducted by the thesis committee.
- To be held at least 3 weeks before thesis submission deadline according to the UHM academic calendar (Note: this deadline usually falls around late March, early April).
- A student who fails the final examination may repeat it once at the discretion of the thesis committee and the Graduate Division.
- A student who fails the examination a second time will be dismissed from the program and the Graduate Division.

Please refer to Graduate Division website for details: https://manoa.hawaii.edu/graduate/content/final-defense. Once the student has successfully passed the final exam, the **Thesis Evaluation Form (Form 3)**, a certification of the final oral exam and thesis defense by the thesis committee, must be submitted immediately to the Graduate

Division. With the approval of the written thesis by the thesis committee, the **Thesis Submission Form (Form 4)** can be submitted to the Graduate Division. By signing this form, committee members indicate approval of the content and the form of the finalized thesis manuscript.

All University of Hawai‘i at Mānoa Graduate Division Master’s Plan A Forms (1-4) are submitted online and are available here: https://manoa.hawaii.edu/graduate/content/forms.

Master's Plan B (Capstone Project Option)

Initial Conference with Graduate Program Chair - Pre-Candidacy Progress

- During the first week of the first semester
- Appointment of an interim academic advisor
- Selection of specialization within the graduate program i.e. Clinical Research Track or Quantitative Health Sciences Track
- Date of preliminary conference (initial advising) with the interim academic adviser

Preliminary Conference(s) with Interim Academic Adviser

- During the first month of the first semester
- If any academic deficiencies are identified, a remediation plan will be developed between the interim academic advisor and the student

Coursework Requirements *(the general credit requirements are the same for both the CR and QHS tracks, but the specific required courses are different. Please see curricula section for details)*

- 34 total credit hours for the MS program
- 28 credit hours of approved didactic core and elective course work (must be taken for an A-F letter grade)
- 2 credit hours of seminar component as a core requirement (A-F grade)
- Minimum of 4 credit hours of research component (BIOM 699 or QHS 699)

Master's Plan B Capstone Committee

- Appointment of a permanent adviser by the end of the first year, who will serve as the chair of the capstone committee
- Appointment of two other members of graduate faculty members from the program graduate faculty list
- Preparation of individualized timeline for MS Plan B

Study Program and Capstone Project Proposal

- Meet with committee to decide on research project before the start of the third semester
- Take additional courses, if needed
- Submit capstone project proposal, approved by the committee
- Complete MSQHCR Master's Plan B Pre-Candidacy Form and submit it to the MSQHCR Graduate Chair or advisor. *Do not submit this form to the Graduate Division.*

Capstone Project Presentation / Final Examination

- Submit a written paper covering the project
- Presentation of the capstone project to the committee, at least 3 weeks before the end of term during which degree is conferred
- At the discretion of the committee, the presentation can be offered during a graduate program seminar
- A student who fails the final examination may repeat it once at the discretion of the Plan B committee
- A student who fails the examination a second time will be dismissed from the program and the Graduate Division
- Completion and internal filing of MSQHCR Plan B Internal Evaluation Form for submission to the Graduate Chair or advisor. *Do not submit this form to the Graduate Division.*

- Certification of completion of research seminar and written paper

Please refer to the Graduate Division exam policies for details
at https://manoa.hawaii.edu/graduate/content/exam-policies

Note: Approval for Research Topics - As required by federal, state and university regulations, UHM students who intend to conduct research that involves the use of subjects listed below must check with their respective academic departments, the Office of Research Services, and the appropriate office(s) listed below for approval and guidance. Depending on the nature of the research project, the student may need to obtain specific certification, approvals, and guidance as required, e.g.:

- Human Studies Program [Phone: (808) 956-5007]
- Environmental Health & Safety Office [Phone: (808) 956-8660]
- Institutional Animal Care and Use Committee [Phone: (808) 956-4446]

Once the student has successfully passed the final exam, a MS Graduate Program Memo, indicating the student's successful completion of the Master's Plan B, will be submitted by the graduate program chair to the Graduate Division Student Services.

MS Forms

Master's Plan A (Thesis)

All Plan A Graduate Division Student Progress Forms are submitted online via the UH Graduate Division website

Graduation Checklist for Masters Plan A Thesis Candidates (PDF)
Pre-Candidacy Progress – Form 1
Advance to Candidacy – Form 2
Thesis Evaluation – Form 3
Thesis Submission – Form 4
Master's Petition to Enroll in GRAD 700F

Master's Plan B (Capstone Project)

These Plan **B** forms are for the QHCR Graduate Program's internal use. Do not submit them to the UH Graduate Division

Graduation Checklist for Masters Plan B Capstone Candidates (PDF)
MSQHCR Master Plan B Pre-Candidacy Form
MSQHCR Plan B Internal Evaluation Form

Graduate Application for Degree

The Graduate Application for Degree form applies to both Plan A and Plan B. To graduate in the Spring semester and participate in the May Spring Commencement exercise, the deadline for submission of this form to the Graduate Division is usually the last week of January in that semester. That deadline will also be the last day to file an application for graduation for summer. Please refer to the UHM Catalog Calendar link for exact information about graduation in Spring or to learn more about graduate in the Fall semester.

On the Graduate Application for Degree form, please include the following underlined/bolded details in the space provided:

- Degree: MS
- Program: Quantitative Health and Clinical Research
- CIRCLE the appropriate selection for A-thesis (Plan A) or B-nonthesis (Plan B).

MS Curriculum

Plan A	Plan B
• 34 total credit hours for the MS program • 24 didactic credits hours of approved didactic core and elective course work (must be taken for an A-F grade) • 2 seminar credits hours as a core requirement (A-F grade) • Minimum of 8 research credit hours from BIOM 700 or BIOM 699 or QHS 699** • Form 2 submitted upon appointment of thesis committee and approval of research topic in Fall of second year • Form 3 submitted upon approval of oral defense • Form 4 submitted upon approval of content and format of finalized thesis manuscript	• 34 total credit hours for the MS program • 28 didactic credit hours of approved didactic core and elective course work (must be taken for an A-F letter grade) • 2 seminar credit hours as a core requirement (A-F grade) • Minimum of 4 research credit hours from BIOM 699, QHS 699 or QHS 676 • MSQHCR Master's Plan B Pre-Candidacy Form submitted upon approval of capstone committee and approval of capstone project. • MSQHCR Plan B Internal Evaluation Form submitted upon approval of capstone project presentation and paper. • Capstone project and paper must be submitted at least 3 weeks before end of semester during which degree is conferred.

Section A. MSQHCR Program Required Core Courses

Course#	Course Title	Credit Hours
BIOM 640	Introduction to Clinical Research	3
QHS 646	Quantitative Health and Clinical Research Seminar*	2

* Enrollment in this one-credit seminar each semester for A-F grade is required for the first year.

Section B. Track Required Courses

1. *Clinical Research (CR) Track*

Course#	Course Title	Credit Hours
QHS 600	Introduction to Clinical Research	3
QHS 601	Fundamentals of Biostatistics*	3
BIOM 641	Legal and Regulatory Issues and Bioethics*	2

* Clinical Research track students are required to enroll in QHS 600. Based on eligibility and instructor approval, students may qualify to register for QHS 601 instead or in addition to QHS 600.

† Currently offered through cross-listed course CMB 626

Plan A:		
BIOM 700	MS Thesis Research	8+ **
Elective Courses		16+
Plan B:		
QHS 699 or BIOM 699	Directed Research	4+
Elective Courses		20+

** Plan A requires that at least 6 research credits are from BIOM 700.

2. *Quantitative Health Sciences (QHS) Track*

Course #	Course Title	Credit Hours
QHS 601	Fundamentals of Biostatistics	3
QHS 602	Generalized Linear Models	3

Plan A:		
BIOM 700	MS Thesis Research**	8+ *
Elective Courses		15+
Plan B:		
QHS 699 or QHS 699 or QHS 676	Directed Research Biostatistical Consulting Practicum	4+
Elective Courses		19+

*Plan A requires that at least 6 research credits are from BIOM 700.

Selected Elective Courses

To be selected by the student, thesis advisor, and committee according to the student's interests and needs (Please see UHM graduate catalog for additional and updated course listings).

1. From the Department of Quantitative Health Sciences

Course #	Course Title	Credit Hours
BIOM 615	Introduction to Clinical Nutrition	3
BIOM 641	Legal and Regulatory Issues and Bioethics†	2
BIOM 644	Translational Research Methods Clinical	2
BIOM 654	Medical Genetics	2
QHS 605	Data Management and Visualization	3
QHS 610	Bioinformatics I	3
QHS 611	Bioinformatics II	3
QHS 620	Introduction to Clinical Trials	2
QHS 621	Design and Analysis of Clinical Trials Cultural	2
QHS 647	Cultural Competence in Biomedical Research (I)	3
QHS 650	Secondary Data Analysis	3
QHS 670	Special Topics in Quantitative Health	1-4
QHS 675	Biostatistical Consulting	2
QHS 676	Biostatistical Consulting Practicum	1-2

† Currently offered through cross-listed course CMB 626

2. From Other Related Programs

Course #	Course Title	Credit Hours
Cell & Molecular Biology (CMB)		
CMB 606	Introduction to Neurosciences	4
CMB 625	Advanced Topics in Genetics	2
CMB 626	Ethics in Biomedical Research	2
CMB 640	Neuropharmacology	2
Geography (GEOG)		
GEOG 388	Introduction to GIS	3
GEOG 389	GIS Data Visualization	3
GEOG 489	Applied Geographic Information Systems	3
GEOG 680	Geospatial Analysis of Natural Resource Data	3
Information and Computer Sciences (ICS)		
ICS 614	Medical Informatics I	3
ICS 624	Advanced Data Management	3
ICS 635	Machine Learning	3
ICS 663	Pattern Recognition	3
Molecular Biosciences & Bioengineering (MBBE)		
MBBE 650	DNA and Genetic Analysis	2
MBBE 683	Advanced Bioinformatics Topics for Biologists	4
Public Health Sciences (PH)		
PH 650	Ecological Epidemiology	2
PH 658	Computer Applications in Public Health	3
PH 663	Principles of Epidemiology I	3
PH 664	Principles of Epidemiology II	3
PH 669	Epidemiological Study Design Critique	2
PH 689	Nutritional Epidemiology	3
PH 747	Statistical Methods in Epidemiological Research	3
Tropical Medicine (TRMD)		
TRMD 675	Epidemiology of Tropical Infectious Diseases	3

MS Quantitative Health and Clinical Research Program Student Learning Outcomes

Program	**Quantitative Health and Clinical Research (MS)**							
Level	**Master's**							
Unit	**Quantitative Health Sciences**	**Institutional Learning Objectives (ILOs)**						
	Program Student Learning Outcomes (SLOs)	1 Demonstrate comprehensive knowledge in one of more general subject areas related to, but not confined to, specific areas or interest	2 Demonstrate understanding of research methodology and techniques specific to one's field of study	3 Apply research methodology and/or scholarly inquiry techniques specific to one's field of study	4 Critically analyze, synthesize, and utilize information and data related to one's field of study	5 Proficiently communicate and disseminate information in a manner relevant to the field and intended audience	6 Conduct research or projects as a responsible and ethical professional, including consideration of and respect for other cultural perspectives.	7 Interact professionally with others
1	**Knowledge:** Knowledge of the process of clinical research, including familiarity with scientific principles and practical experience in the design and conduct of research, collection of data, and interpretation of quantitative data in the context of the scientific literature. (ILO 2: Knowledge of Techniques)		◙					
2	**Research**: Develop and implement culturally competent quantitative health and clinical research that addresses health disparities, including the ability to analyze and synthesize literature to ascertain the state of the science in regard to selected areas of quantitative health and clinical research; apply appropriate research methodologies and analyses to explore clinical research questions. (ILO 3: Conduct Research; ILO 4: Critical Analysis)			◙	◙			
3	**Scientific communication:** Effectively disseminate one's scholarly work through publishable written manuscripts and academic oral presentations. (ILO 5: Communication)					◙		
4	**Professionalism/ethics:** Conduct research in an ethically responsible and culturally competent manner, applying ethical principles in research design and implementation and demonstrating related knowledge of laws, regulations, and policies.						◙	
5	**Culturally competent professional interaction**: Engage in community-based research networks in selected areas of quantitative health and clinical research interest; develop cultural competence when interacting and conducting research involving persons from various cultural, socioeconomic, educational,						◙	◙

	and professional backgrounds, of all ages and lifestyle preferences; develop a degree of understanding and scientific maturity to assess the work of others (critical analysis); communicate effectively in writing and orally for professional and community audiences. (ILO 6: Ethics & Culture; ILO 7. Professional interaction)							
6	**Interdisciplinary collaboration**: Work collaboratively, interdependently and effectively with others in the field of quantitative health, clinical research, and other related disciplines. (Self-assessment) (ILO 7. Professional interaction)							◙
7	**Self-directed learning**: Demonstrate self-directed learning skills including ability to obtain appropriate feedback, consultation, and/or review before, during, and after a research project (ILO 7. Professional Interaction)							◙
8	Specific to **Clinical Research (CR) Track**: Demonstrate knowledge based in various disciplines of clinical research; develop foundational knowledge and skills to conduct ethically responsible clinical research throughout professional careers; demonstrate skills and knowledge required for clinical research design and critical evaluation of data collection methodologies.	◙	◙	◙	◙	◙	◙	◙
9	Specific to **Quantitative Health Sciences (QHS) Track**: Demonstrate knowledge and skills in quantitative health sciences, including biostatistics and bioinformatics; demonstrate a mastery of experimental, clinical research design and data analysis methodologies, including clinical trials; interact professionally and culturally competently with others during research, projects, and consultations.	◙	◙	◙	◙	◙	◙	◙

Graduate Certificate in Clinical Research

The Graduate Certificate in Clinical Research (GCERT-CR) is ideal for gap-year students, medical trainees, physicians, nurses, allied health professionals, and other health professionals with an interest in developing their skills for collaborative research. Students will gain knowledge of clinical research and trial design, clinical research protocol development, ethical conduct of clinical research, and the skill of statistical data analysis.

The GCERT-CR is a fully online program, which accommodates the needs and time constraints of the busy professional learners.

Students will be able to complete the required courses at their own pace if enrolled part-time or within 2 semesters if enrolled full-time. The Graduate Certificate in Clinical Research enrolls for the Fall semester only. Courses will be offered online and dual-listed under the University of Hawai'i at Mānoa Outreach College. Through the Outreach College, students have the flexibility to take individual courses without enrolling into a graduate degree program right away.

Credits earned through the GCERT-CR can be transferred to the Master of Science in Quantitative Health and Clinical Research if a student opts to pursue a MS degree.

Certificate Admissions Eligibility

Applicants need to possess a bachelor's degree from an accredited U.S. college or university, or an equivalent degree from a recognized non-U.S. institution of higher education. Undergraduate-level course requirements include at least one semester of biology and one semester of algebra. At minimum, applicants must demonstrate above average academic performance (B average, usually a 3.0 on a 1.0-4.0 scale) for undergraduate course work and for any post-baccalaureate or graduate course work.

How to Apply

To apply for the Graduate Certificate in Clinical Research, please visit the University of Hawai'i at Mānoa Graduate Division website to fill out an online application: https://manoa.hawaii.edu/graduate/clinical-research/

Please include the following documents with your application:

- Resume, curriculum vitae, or evidence of professional experience
- Personal statement to show commitment, goals, and interests
- Post-secondary institution transcripts
- At least 2 letters of professional references from individuals who can comment on the quality of the applicant's educational or work experiences, ability to pursue graduate studies, and character

GCERT-CR Credits and Grade Point Average

The minimum required credits for the GCERT-CR is 15 credit hours of 600-level graduate courses with a grade of B or higher and a cumulative GPA of 3.0 or higher for all courses counted towards the certificate including the mentored capstone or research experience that is undertaken in parallel with didactic coursework.

GCERT-CR Required Core Courses

Students pursuing the GCERT-CR need to complete the following courses:

- QHS 600 Biostatistics Concepts for Clinical Researchers (3 credits) or QHS 601 Fundamentals of Biostatistics (3 credits)
- BIOM 640 – Introduction to Clinical Research (3 credits)
- BIOM 660 – Mentored Capstone Research Practicum (2 credits)

GCERT-CR Electives

In addition to the 8 credits of required core courses, 7 credits of elective courses need to be completed. Please check the UH Mānoa Class Availability website for available courses each semester.

Suggested elective courses include the following:

- BIOM 615 – Introduction to Clinical Nutrition (3 credits)
- BIOM 641 – Legal and Regulatory Issues and Bioethics (2 credits)†
- BIOM 644 – Translational Research Methods (2 credits)
- QHS 602 – Generalized Linear Models (3 credits)
- QHS 605 – Data Management and Visualization for Health Sciences (3 credits)
- QHS 610 – Bioinformatics I (3 credits)
- QHS 611 – Bioinformatics II (3 credits)
- QHS 620 – Introduction to Clinical Trials (2 credits)
- QHS 621 – Design and Analysis of Clinical Trials (2 credits)
- QHS 647 – Cultural Competence in Biomedical Research (3 credits)
- QHS 650 – Secondary Data Analysis (3 credits)
- QHS 670 – Special Topics – Machine Learning for Data Science (2 credits)
- QH 670 – Special Topics in Quantitative Health Sciences (1-4 credits)

† Currently offered through cross-listed course CMB 626

Please see the UH Mānoa Catalog for additional and updated course listings.

GCERT-CR Academic Advising and Capstone Project Requirement

- Initial Conference with Graduate Program Administrator
  - Discuss courses and identify permanent advisor. If you select an advisor from outside the program, you still need to identify a co-advisor from within the graduate program
- During the first or second week of the first semester meet with permanent advisor and start planning your required mentored research project (Capstone).
  - Three potential options:
    - Literature review on a topic of your interest in clinical research
    - Data analysis project
    - Project guided by an external mentor, in collaboration with a program mentor who is responsible for offering the BIOM 660 course, under a collaborative agreement
- If you plan to pursue the MSQHCR, please inform the Graduate Program Administrator or Graduate Chair (qhcr@hawaii.edu) *before* the start of the second semester.

Information for Students

For more information regarding academic policies, student conduct and academic integrity, and transfer credits for online courses, please visit the following website: https://www.uhonline.hawaii.edu/student-info

Graduate Program Key Courses

BIOM 615 Introduction to Clinical Nutrition (3) Overview of applied clinical nutrition that includes nutrients, dietary recommendations for healthy populations and medical nutrition therapies for patients with diet related diseases or conditions. Graduate students only. A-F only. Pre: BIOL 171 (or higher) or PHYL 141 or ZOOL 141 or consent.

BIOM 640 Introduction to Clinical Research (3) Instruction in developing clinical research questions and creating a concise protocol that includes a literature review, study design, subject recruitment and sampling, instruments, other measures and bioinformatics, sample size, consent form, budget and timetable. A-F only.

BIOM 641 Legal and Regulatory Issues and Bioethics (2) Ethical dilemmas in clinical research are identified and resolved in case studies, research on human participants regulation are discussed. Research misconduct is defined. Ethical considerations in protocol development and clinical research are explored. A-F only. *Currently offered through cross-listed course CMB 626*

BIOM 644 Translational Research Methods (2) Lectures focus on translational research methods through selected genetic and acquired diseases including cancer, neurodevelopmental, inflammatory-immune and metabolic disorders with insight into analyses of DNA, RNA, genomics-proteomics, cell and animal models, and advanced imaging. A-F only. Pre: consent.

BIOM 654 Medical Genetics (2) Focus on heritable disorders, genetic mechanisms, patterns of inheritance, phenotype-genotype correlations, genetic/environmental factors, clinical diagnoses, genomic and precision medicine. A-F only.

BIOM 660 Mentored Research Practicum (V)
Conduct research under the direction of a mentor. Participants will be responsible for submission of a proposal, acquisition of IRB approval, and conduct of the project. Repeatable five times or up to 12 credits. BIOM students only. A-F only.

BIOM 699 Directed Research (V) Students may register on approval of department. CR/NC only. Repeatable unlimited times.

BIOM 700 Thesis Research (V) Research for master's thesis. Repeatable seven times or up to 8 credits. CR/NC only. Pre: consent.

QHS 401 Mathematic Preparation for Quantitative Health Sciences (3) Mathematics preparation for quantitative health sciences. Includes selective topics in linear algebra, advanced calculus and probability theory. A-F only.

QHS 499 Directed Reading/Research (V)
Directed reading/research in quantitative health sciences. Students will work closely with a QHS faculty member or mentor who will guide them through quantitative methodologies and/or the process of conducting a research study. Repeatable three times or up to 12 credits. A-F only.

QHS 600 Biostatistics Concepts for Clinical Researchers (3) Provide biostatistical concepts to clinical

researchers. Students will obtain the ability to demonstrate an understanding of key biostatistical concepts in clinical research; and interpret statistical findings most commonly reported in clinical and healthcare literature. Graduate students only.

QHS 601 Fundamentals of Biostatistics (3) Fundamental biomedical statistics concepts and tools will be introduced, as well as their applications to biomedical data. Students will perform hands-on analysis using statistical software and learn to interpret and present the results. A-F only. (Fall only) (Cross-listed as TRMD 655)

QHS 602 Generalized Linear Models (3) Statistical theory of Linear Model and Generalized Linear Model, algorithms use for estimation, inference concepts, and assessment of goodness-of-fit. Covers Proportional Hazard Model and Generalized Estimating Equations. A-F only. Pre: 601 (with a minimum grade of B) or consent.

QHS 605 Data Management and Visualization for Health Sciences (3) Data management and visualization is essential to all aspects of health sciences. Through hands-on experiences in R, will introduce data processing, manipulation, visualization and reproducibility, with an emphasis on clinical, medical, and health science problems. A-F only.

QHS 610 Bioinformatics I (3) Fundamental concepts in bioinformatics with a strong emphasis on hands-on training. Topics such as molecular biology, sequence alignment, biological databases, phylogeny, and genomics including microarray and RNA-Seq data analysis. A-F only. (Fall only) (Cross-listed with TRMD 653)

QHS 611 Bioinformatics II (3) Focus on bioinformatics approaches for functional genomics related to DNA, RNA, and protein. Provides overview of virus, bacteria, and human genome and bioinformatics approaches to human disease. A-F only. Pre: QHS 610 (or equivalent) (with a minimum grade of B) or consent.

QHS 620 Introduction to Clinical Trials (2) Topics include history, definitions/terminology, adverse events, FDA and government regulatory agencies, ethics, monitoring committees, recruitment, introduction to protocol development, basic designs. A-F only.

QHS 621 Design and Analysis of Clinical Trials (2) Basic and advanced statistical methods utilized in clinical trials design, conduct, and data analysis. Topics covers statistician's role in drug development and DSMB (Data and Safety Monitoring Board), statistical theory in phase I-IV clinical trial designs and analysis. A-F only. Pre: QHS 601 or consent.

QHS 646 Quantitative Health and Clinical Research Seminar (1) Provides overview of research related to health in Hawai'i and advances in quantitative health and clinical research. Topics include ethnic disparities in health, social and cultural factors, ethics, biostatistics and bioinformatics. Repeatable six times. CR/NC only. Pre: consent

QHS 647 Cultural Competence in Biomedical Research I (3) Introductory lecture-seminar on the conduct of multidisciplinary research from a culturally competent perspective. A-F only.

QHS 650 Secondary Data Analysis (2) Will allow students who are new to using secondary data to become comfortable with accessing the data, forming hypotheses, and designing study proposals. Will introduce examples with both basic and advanced techniques. A-F only. Pre: 601 (or equivalent) with a minimum grade of B- .

QHS 670 Special Topics in Quantitative Health Sciences (V) Special topics in quantitative health sciences. Reflects special research interest of QHS faculty or guest lecturers. Repeatable unlimited times. A-F only.

QHS 670 Special Topics in Quantitative Health Sciences (2) – Epidemiology of Chronic Diseases. Study the epidemiology, etiology, pathogenesis, risk factors and preventive factors of common chronic diseases. (2)

QHS 670 Special Topics in Quantitative Health Sciences (2) – Machine Learning for Data Science (2) Introduces machine learning techniques with a strong emphasis on hands-on training.

QHS 675 Biostatistical Consulting (2) Investigate the roles and responsibilities of the biostatistician as both consultant and collaborator with biomedical researchers, guide students in enhancing problem-solving and communication skills, and provide opportunity to observe real-life biostatistical consultations. A-F only. Pre: 601 and 602 (or equivalent) with minimum grades of B, and consent.

QHS 676 Biostatistical Consulting Practicum (V) Under the supervision of biostatistics faculty members, students will have the opportunity to provide statistical consultations to biomedical researchers and gain hands-on experience conducting biostatistical analysis in solving real-life analytic problems. Repeatable two times, up to six credits. A-F only. Pre: 675 (or concurrent) with a minimum grade of B.

QHS 699 Directed Research (V) Directed research in quantitative health sciences. Students will work closely with a QHS faculty member or mentor who will guide them through the process of conducting a research study. Repeatable unlimited times. A-F only.

Tuition & Financial Aid

Tuition and Fee charges at the University of Hawai'i at Mānoa campuses are subject to change in accordance with requirements of State law and/or action by the Board of Regents or the University administration. Your tuition is based on the number of credit hours for which you enroll, according to the following rates (subject to change).

The MS Graduate Full-Time Status is 8 credits or more per Fall or Spring semester. Please see the Graduate Division for all enrollment status definitions. Please visit the Office of the Registrar page on Graduate Tuition and Fees: https://manoa.hawaii.edu/registrar/tuition-fees/Graduate/

Both MS and GCERT-CR students are eligible to apply for federal financial aid. The most current UHM graduate tuition and financial aid information can be found at the following websites: https://www.hawaii.edu/fas/basics/student_budget/ and https://www.hawaii.edu/fas/basics/types_of_aid/

The GCERT-CR tuition for graduate online courses for resident and nonresident tuition is currently $650 per credit.

Graduate Assistantships (GAs)

Graduate Assistantships are available to MS students only. Limited and selective program graduate and research assistantships are offered by the Department of Quantitative Health Sciences (QHS) to outstanding MS students, usually during their second year of study. The QHS Admissions and Awards Committee administers the departmental GAs for students to work at department-operated school facilities and units, such as Biostatistics Core or Bioinformatics Core. For more information on available GA positions, please visit our Job Opportunities page or contact the Graduate Program at qhcr@hawaii.edu.

The two types of GAs that exist are:

1. Teaching Assistantship (TA): Usually a 9-month appointment during the academic year. Specific duties vary, but they generally consist of serving under the supervision of a faculty member to assist in the teaching of a course.
2. Research Assistantship (RA): In general, an RA supports the research and service activities of a faculty member who is the principal investigator of a funded project. The specific duties of an RA vary depending on the needs of the project and on the qualifications and experiences of the RA. The duties may be directly or tangentially related to the RA's program of study, while results from the research project may be incorporated into a thesis or dissertation as relevant. Some RAs exercise a great degree of independence while performing their duties; others carry out specific tasks that leave little room for independent judgment. RAs should be knowledgeable about official university policies on research and publication. RA appointments usually have an 11-month appointment.

- ***Compensation:*** GA compensation adheres to the schedule (based on 0.50 FTE per year) approved by the UH Board of Regents. Newly appointed GAs/RAs are compensated at a pay step recommended by the department or unit of hire, with a minimum level Step as determined by the University of Hawai'i. GAs/RAs with research duties are usually appointed at pay steps depending on their qualifications and

experiences, the needs of their departments or units, and the availability of funds. Please visit: https://manoa.hawaii.edu/graduate/content/compensation-tax-withholding

- ***Tuition Exemption:*** GAs with 0.50 FTE appointments may receive a full tuition exemption. All GAs must be employed for at least 12 weeks during the *semester* in order to receive the tuition exemption. Tuition exemptions apply only to fall and spring semesters, and *may not* be used for Outreach College and Distance Education courses. Summer Session tuition exemptions, when available, are issued by the Outreach College. GAs are responsible for the payment of fees. GAs who resign before serving at least three-quarters of a semester are liable for repayment of tuition exemptions. Please visit: https://manoa.hawaii.edu/graduate/content/rules-regulations
- ***Health Plan & Parking Permits:*** GAs with 0.50 FTE appointment who serve for a minimum of three months are eligible for health plan benefits. For more information, contact the personnel officer in the department or unit of hire. To purchase parking permits, GAs need to obtain first a memo from their department or unit of hire. They then present the memo along with all other required documents to the Parking and Transportation Services.

Graduate Division Achievement Awards

A limited number of merit-based Graduate Division Achievement Scholarships are available to qualified graduate students.

- ***Eligibility & How to Apply:*** To be eligible, a student must be a student in the master's program and have a cumulative GPA of 3.8 or above. Students apply through the MS graduate programs. These awards are very competitive.
- ***Award Amount:*** The award amount varies, depending on the purpose of the award and funding availability. Minimum award is $500.
- ***Award Conditions:*** Award recipients must maintain an enrollment of six credits or more of degree-related courses and a cumulative GPA of 3.8 or above, for the entire period of the award. If the student becomes ineligible for this award prior to the start of a term, he/she will forfeit the award and future terms of award application may be affected.
- ***Award Distribution Procedure:*** The Graduate Division allocates achievement scholarships to graduate programs, which in turn distribute the awards to qualified students via BANNER and STAR at the time of registration.

Other Financial Support Opportunities

Besides the mechanisms described above, there are other intramural and extramural funding opportunities available to graduate students. For more information on these resources, please consult the Graduate Division funding opportunities site: http://manoa.hawaii.edu/graduate/content/financial-support

Finding Work at UHM Campuses

GA positions in other departments may also be available. The University of Hawai'i's 10-campus system offers a wide range of career opportunities throughout the State of Hawai'i. Employment within the University system includes competitive compensation and benefits, a supportive work environment, and the opportunity to build a lifelong commitment to education by joining the ranks of our renowned scholars and researchers and dedicated staff. To search for GA positions at UH, please visit the following UH job website (select "Graduate Assistant" under "Position Type" box): http://workatuh.hawaii.edu/Search

Academic Policy & Student Conduct

All undergraduate and graduate students in the John A. Burns School of Medicine must adhere to the academic policies of UHM. A summary description of these policies may be found in the online catalog:

https://manoa.hawaii.edu/ovcaa/policies/

Student Conduct Code Policies & Procedures

The University of Hawai'i expects students to maintain standards of personal integrity that are in harmony with the educational goals of the institution; to respect the rights, privileges, and property of others; and to observe national, state, and local laws and University regulations. Examples of behaviors that are in conflict with the community standards and UH values include: acts of dishonesty (cheating, plagiarism, false information, forgery), disruption of UH activities, behaviors that endanger health and safety, sexual advances, discrimination, theft, hazing, failure to comply with directions of UH officials or law enforcement, unauthorized entry, violations of UH policy and law, unauthorized use of controlled substances, public intoxication, unauthorized possession of firearms, disorderly conduct, and violation of copyright laws.

UHM Student Conduct Code
http://studentaffairs.manoa.hawaii.edu/policies/conduct_code/

Violations of the Student Conduct Code (possible suspension or expulsion)
http://studentaffairs.manoa.hawaii.edu/policies/conduct_code/procedures.php#I

For questions or further information, contact the Office of Judicial Affairs (Address: 2600 Campus Road, QLCSS 207, Honolulu, HI 96822 Phone: (808) 956-4416 Email: oja@hawaii.edu). The complete Student Conduct Code Policies & Procedures is available on line at: http://studentaffairs.manoa.hawaii.edu/policies/

Attendance and Leaves of Absence

Students are required to attend, continuously enroll, and be active participants in all class activities in the program. Attendance and participation is also a reflection of professionalism and respect for the institution, instructors, fellow classmates, and clients. If a class or assignment must be missed due to a legitimate reason, students are expected to provide prior notice to the necessary individuals (e.g., instructor, graduate program chair, group project teammates, etc.) as soon as possible. It is the student's responsibility to arrange and request an extension of coursework, make up on missed work, and to arrange for clinical coverage. In case of extended absences due to personal or health reasons, please consult with your advisor and the Graduate program chair. An official Leave of Absence (LOA) may be appropriate. Here is the link:

https://manoa.hawaii.edu/graduate/leave-of-absence/

Student Counseling and Title IX

Counseling:

JABSOM provides basic psychological counseling services through the UHM Counseling Student and Development Center (http://manoa.hawaii.edu/counseling/about/meet_the_staff.php). You can call them at 808-956-7927. Dr. Michael Yap counsels students confidentially in the medical education building.

Title IX – Sex Discrimination and Sexual Harassment:

Title IX is a federal law that states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance."

Title IX of the Education Amendments of 1972 protects people from discrimination based on sex in education programs or activities which receive Federal financial assistance. Under Title IX of the Education Amendment Act of 1972, the University of Hawai'i has a responsibility to ensure that students have a learning environment that is free of sex discrimination and sexual harassment. The United States Department of Education (ED) maintains an Office for Civil Rights, with 12 enforcement offices throughout the nation and a headquarters office in Washington, D.C., to enforce Title IX.

Please review the following web sites: https://manoa.hawaii.edu/titleix/

If you want to report a Title IX concern or have questions, please contact:

Dr. Dee Uwono
Director and Title IX Coordinator
Hawai'i Hall #124
2500 Campus Road
Honolulu, HI 96822
Telephone: (808) 956-2299
Email: t9uhm@hawaii.edu

Useful Links

Graduate Division Sites

- Home Page
  http://manoa.hawaii.edu/graduate/
- Policies
  http://manoa.hawaii.edu/graduate/content/current-students
- Graduate Assistant Information
  http://manoa.hawaii.edu/graduate/content/graduate-assistants
- Graduate Academic Grievance Procedures
  http://manoa.hawaii.edu/graduate/content/ga-grievance
- UH Mānoa Student Conduct Code
  http://www.studentaffairs.manoa.hawaii.edu/policies/conduct_code/
- Facebook Page
  http://www.facebook.com/uhmgd
- Forms
  http://manoa.hawaii.edu/graduate/content/forms

Other Useful Sites

- University of Hawai'i Home
  http://www.hawaii.edu/
  Select " UH Information" will open all information and related information for new students covering how to apply, financial aid, catalog, transfer credit search, new database, on-campus activities, housing (dorms), parking, etc.
- John A Burns School of Medicine (JABSOM)
  http://jabsom.hawaii.edu/jabsom/
- Department of Quantitative Health Sciences (DQHS)
  http://qhs.jabsom.hawaii.edu
- My UH Services
  http://myuh.hawaii.edu
  On-line registration of classes; Class schedule and class availability.
- Office of the Registrar
  http://manoa.hawaii.edu/records/register/guide.html
- UH Mānoa Online Catalog
  https://manoa.hawaii.edu/catalog/
- Get a UH username
  https://www.hawaii.edu/username/
- Health Insurance
  http://www.hawaii.edu/shs/student_insurance/
- Graduate Student Organization
  https://manoa.hawaii.edu/gso/

- Health Sciences library (free access to many PubMed articles through this link)
  http://www.hawaii.edu/hslib
- JABSOM Catalog
  https://manoa.hawaii.edu/catalog/schools-colleges/medicine/
- Laulima (Learning & Collaboration Server for the University of Hawai'i Community)
  https://laulima.hawaii.edu/portal/
- University of Hawai'i Department of Financial Aid
  http://www.hawaii.edu/fas/
- Students with Disabilities
  http://www.hawaii.edu/kokua/
- Ola HAWAII
  http://ola.jabsom.hawaii.edu/
- National Institute on Minority Health and Health Disparities
  http://www.nimhd.nih.gov/
- Association for Clinical and Translational Science
  http://www.actscience.org/
- American Association for the Advancement of Science
  https://www.aaas.org/
- American Statistical Association
  http://www.amstat.org/
- American Medical Informatics Association
  https://www.amia.org/
- Academic Consortium for Integrative Medicine & Health
  https://www.imconsortium.org/