

IRAO OFFICE USE ONLY	
Received	5/6/16
In Banner	
MTVCOMP/Codeset	
Master Curriculum	
CIP Code	
Program Code	BMDT-GCER-TM
Program Description	

University of Hawai'i
Code Request Form for Academic Programs for

Reset Form

NEW OR MODIFY PROGRAM CODE

New Program Code **Modify Program Code** Date: _____

REQUESTOR CONTACT INFORMATION

Name Stuart Lau Campus UH Manoa
 Title University Registrar Email stuartl@hawaii.edu
 Office/Dept Office of the Registrar Phone 956-5322

NEW PROGRAM CODE TO CREATE

Institution MAN - UH Manoa Campus MAN - UH Manoa
 Level GR - Graduate Effective Term Summer 2016

	Code (Max. Characters)	Description	Check if requesting new code:
College	(2) <u>50</u>	<u>Graduate Division</u>	<input type="checkbox"/> See Banner form STVCOLL
Department	(4) <u>TRMD</u>	<u>Tropical Medicine & Med Micro</u>	<input type="checkbox"/> See Banner form STVDEPT
Degree/Certificate	(6) <u>GCER</u>	<u>Graduate Certificate</u>	<input type="checkbox"/> See Banner form STVDEGC
Major	(4) <u>TRMD BMDT</u>	<u>Tropical Medicine) Biomed Sci</u>	<input checked="" type="checkbox"/> See Banner form STVMAJR
Concentration	(4) <u>TM</u>	<u>Tropical Medicine</u>	<input type="checkbox"/> See Banner form STVMAJR
Minor	(4) _____	_____	<input type="checkbox"/> See Banner form STVMAJR

If a similar major/concentration code exists in Banner, please list the code: _____
 Justification to warrant a new major/concentration code similar to an existing major/concentration code: _____

Is this major/concentration code being used the same way at the other UH campuses? Yes No
 Should this program be available for applicants to select as their planned course of study on the online application? *If yes, student may select the code as their only program of study.* Yes No

RULES PERTAINING TO FINANCIAL AID AND 150% DIRECT SUBSIDIZED LOAN LIMIT LEGISLATION

Is 50% or greater of the classes in this program offered at a location other than the Home Campus? Yes No
 Is this program/major/certificate financial aid eligible? Yes No
 Does this certificate qualify as a Gainful Employment Program (Title IV-eligible certificate program)? Yes No
 See <http://www.ifap.ed.gov/GainfulEmploymentInfo/index.html>

Program Length
In academic years; decimals are acceptable. The length of the program should match what is published by the campus in any online and/or written publication. 30.000 weeks

Special Program Designations A B N P T U

Required Terms of Enrollment: Fall Spring Summer Extended

CL=08

ADDITIONAL COMMENTS

ATTACHMENTS

BOR Approved: Associate, Bachelor and Graduate Degrees, and sole credential certificates

BOR Meeting Minutes & Supporting Documents Curriculum

Chancellor Approved: Certificates related to authorized BOR program & Associate in Technical Studies (ATS) Degree

Memo from Chancellor to notify VPAA about new program Curriculum

For new certificates approved by the Chancellor, the related BOR authorized academic program is:

VERIFICATIONS

By signing below, I verify that I have reviewed and confirm the above information that is pertinent to my position.

Registrar:

Stuart Lau



4/14/16

Print Name

Signature

Date

Financial Aid Officer:

Jodie Kuba



5/6/16

Print Name

Signature

Date

For Community Colleges, verification of consultation with OVPC Academic Affairs:

Print Name

Signature

Date



UNIVERSITY
of HAWAII
MĀNOA

Office of the Vice Chancellor for Academic Affairs

RECEIVED

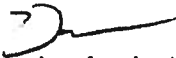
16 FEB 25 P3:01

February 22, 2016

MANOA CHANCELLORS
OFFICE

MEMORANDUM

TO: Robert Bley-Vroman
Interim Chancellor

FROM: Reed Dasenbrock 
Vice Chancellor for Academic Affairs

SUBJECT: REQUEST TO APPROVE THE GRADUATE CERTIFICATE IN
TROPICAL MEDICINE

SPECIFIC ACTION REQUESTED:

It is requested that the Chancellor approve the Graduate Certificate in Tropical Medicine to be administered by the Department of Tropical Medicine, Medical Microbiology and Pharmacology in the John A. Burns School of Medicine.

EFFECTIVE DATE:

Summer 2016.

ADDITIONAL COST:

None.

PURPOSE:

The proposed Graduate Certificate in Tropical Medicine is designed to equip students with the knowledge and skills needed to successfully pursue a career in clinical tropical infectious diseases or non-clinical, allied health careers that require a background in tropical infectious diseases.

BACKGROUND:

UH Executive Policy E5.205 grants the Chancellor the authority to approve certificate programs in specific subjects that represent recognition of work taken within (or among) existing Board-authorized programs.

Tropical infectious diseases inflict substantial health and economic burdens on developing countries, including many nations in the Asia-Pacific Region. As a consequence of increased migration and international tourism to the U.S. and to the State of Hawai'i in particular, the introduction of tropical infectious diseases is increasing in areas where knowledge of these

2500 Campus Road, Hawai'i Hall 209
Honolulu, Hawai'i 96822
Telephone: (808) 956-8447
Fax: (808) 956-7115



UNIVERSITY
of HAWAII
MĀNOA

Office of the Vice Chancellor for Academic Affairs

conditions is limited. Since its inception in 1967, the Department of Tropical Medicine, Medical Microbiology and Pharmacology has been a major contributor to global health education.

The proposed Certificate will complement three NIH-funded training programs for undergraduate and graduate students and provide a route for non-degree-seeking professionals to obtain the knowledge and skills related to infectious diseases. Additional information about the Graduate Certificate in Tropical Medicine may be found in the attached proposal.

The proposed program has been reviewed and recommended for approval by the Office of Graduate Education, the Graduate Council, and the Mānoa Faculty Senate. My staff and I have also reviewed the proposal, and we recommend your approval.

ACTION RECOMMENDED:

It is recommended that the Chancellor approve the Graduate Certificate in Tropical Medicine to be administered by the Department of Tropical Medicine, Medical Microbiology and Pharmacology in the John A. Burns School of Medicine.

APPROVED / ~~DISAPPROVED~~

Handwritten signature of Robert Bley-Vroman in black ink.

Robert Bley-Vroman
Interim Chancellor

3/3/16
Date

Attachment

- c: Risa Dickson, Vice President for Academic Affairs
Dean Hedges
Dean Aune
Chair Nerurkar
Graduate Chair Chang

2500 Campus Road, Hawai'i Hall 209
Honolulu, Hawai'i 96822
Telephone: (808) 956-8447
Fax: (808) 956-7115



Re: Graduate Certificate in Tropical Medicine

1 message

Vivek Nerurkar <nerurkar@hawaii.edu>
To: Stuart Lau <stuartl@hawaii.edu>
Cc: William Gosnell <gosnell@hawaii.edu>

Wed, Apr 13, 2016 at 4:38 PM

Hi Mr. Lau:

Yes for both Q.

TRMD and 30 weeks.

Aloha.

Vivek

Vivek R. Nerurkar

Vivek R. Nerurkar, D.M.L.T., M.Sc., Ph.D.
Professor and Chair
Department of Tropical Medicine, Medical Microbiology and Pharmacology
Director, JABSOM Biocontainment Facility
John A. Burns School of Medicine
University of Hawaii at Manoa
651 Ilalo Street, BSB 320G
Honolulu, HI 96813

Telephone: (808) 692-1668

Facsimile: (808) 692-1980/1984

E-mail: nerurkar@hawaii.edu

<http://manoa.hawaii.edu/tropicalmedicine/>

<http://pceidr.jabsom.hawaii.edu/>

On Wed, Apr 13, 2016 at 1:33 PM, Stuart Lau <stuartl@hawaii.edu> wrote:

Dear Chair Nerurkar:

We are currently working on establishing the code for the Graduate Certificate in Tropical Medicine and have a couple of questions:

1. Would the major code of "TRMD" be acceptable
2. Indicate the length of the program in weeks (Note: Most graduate certificates are 30 weeks with 30 weeks in a year).

Your response to these questions will facilitate the process to have the codes created.

Sincerely,
Stuart Lau

GRADUATE CERTIFICATE IN TROPICAL MEDICINE

Goals and Objectives

The graduate certificate in Tropical Medicine will provide a mechanism for students to obtain the knowledge and skills needed to successfully pursue a career in clinical tropical infectious diseases ("clinical track") or non-clinical, allied health careers that require a background in tropical infectious diseases ("non-clinical track"), including public health epidemiology, medical technology, and biotechnology. For individuals in the clinical track, the Tropical Medicine certificate curriculum will prepare them for the national certification examination in Clinical Tropical Medicine and Travelers' Health. The certificate program also offers an option for post-baccalaureate students preparing for medical and pharmacy school to obtain a year of advanced biomedical training prior to applying to a professional school.

The courses needed to complete the certificate are currently available as part of the existing MS and PhD graduate degree programs in the John A. Burns School of Medicine. The distinction from these programs is that while the MS and PhD programs emphasize research training and require between 2-5 years for completion, the 1 year certificate program does not have a research training requirement but instead calls for a practicum that provides a clearly defined, real-world field experience in the student's area of interest.

The overall objective of the certificate program is to promote health-related career opportunities in the academic, governmental and private sectors locally, nationally, and internationally.

Program Need

Program justification

Tropical infectious diseases inflict substantial health and economic burdens on developing countries, including many nations in the Asia-Pacific region. Many of these infections, HIV, tuberculosis and malaria for example, can become chronic and exacerbate the problem of poverty, thus hindering economic progress. With limited resources, impoverished countries have little capacity to develop or implement control programs. More than 2 decades ago a call for a more active role from United States' medical schools in international medical education was sounded citing a number of reasons, not the least of which is the fact that disease knows no boundaries. As a consequence of increased migration and international tourism to the US, and to the State of Hawai'i in particular, the introduction of tropical infectious diseases is increasing in areas where knowledge of these conditions is limited.

The University of Hawai'i system (UH) has a collection of global health programs spread across a number of different campuses, such as the Colleges of Arts and Sciences, School of Nursing and Dental Hygiene, the College of Pharmacy, public health, medicine, and others. These include curricular offerings, faculty and student exchange programs, degree programs, clinical trials, clinical service opportunities, and public health and population-based initiatives. However, the Tropical Medicine program is unique in its focus on global infectious diseases, particularly those endemic to tropical environments. Since its inception in 1967, the Department of Tropical Medicine, Medical Microbiology and Pharmacology based at the John A. Burns School of Medicine (JABSOM) has been a major contributor to global health education. Over the last 40 years the department's Master's and PhD programs have trained students from China, Japan, Nepal, India, Thailand, Malaysia, The Philippines, Panama, Zambia, Zaire, and Zimbabwe as well as from all parts of the U.S. The proposed certificate in Tropical Medicine will provide a mechanism for students to obtain the knowledge and skills needed to play a significant role in control and prevention programs for the 21st century global resurgence of infectious diseases.

In 2012, the department faculty received five years of funding from the Fogarty International Center, National Institutes of Health to train Cameroonian students in conducting malaria research (D43TW009074) and the Global Health Fellowship program to support postdoctoral fellows and scholars to conduct infectious diseases research in low middle-income countries (R25MH080661). A Certificate in the Tropical Medicine program would complement three (3) Department of Tropical Medicine, Medical Microbiology and Pharmacology NIH-funded training programs for undergraduate and graduate students as well as provide a route for non-degree seeking professionals to obtain the knowledge and skills related to infectious diseases.^{1,2,3,4,5}

Program impact on workforce needs

The Tropical Medicine certificate program provides an opportunity for health care professionals working in the community to obtain critical training in emerging infections that have the potential to be introduced in Hawai'i and the rest of the United States. The Tropical Medicine certificate program will provide training in emerging infection diseases critical for epidemic and pandemic preparedness and maintenance of community health.

More than 2 decades ago a call for a more active role from United States medical schools in international medical education was sounded citing a number of reasons, not the least of which was the fact that disease knows no boundaries. As a consequence of increased migration and international tourism to the US, and to the State of Hawai'i in particular, the introduction of tropical infectious diseases into areas unfamiliar with these conditions is increasing. An illustration of this growing need was recently published citing the need to train both laboratorians and clinicians to recognize parasitic infections.⁶

Needs met by existing UH program(s)

The UH Tropical Medicine Certificate program would be unique in that it would be the only one of its kind offered between Texas and Thailand (Appendix B). In addition, there is currently no certificate program in the biomedical sciences at the School of Medicine although there is a demand for such a program. An example of which is noted in a letter of support from the 'Imi Ho'ōla Post Baccalaureate Program. We would expect it to be most relevant to medical, public health and biomedical science students but expect the certificate program to also generate interest and participation from students at other UH units such as nursing and pharmacy.

Program alignment with system and campus mission and strategic plans

This certificate program is consistent with JABSOM's basic mission to teach and train high-quality physicians, biomedical scientists, and allied health workers for Hawai'i and the Pacific. The courses offered as part of this certificate program provide a core foundation in tropical medicine and infectious diseases offered through our current graduate degree programs and are consistent with curriculum content offered by other highly-regarded academic institutions offering similar certificates or diplomas in the US and abroad.

With respect to JABSOM's MD educational curriculum, the Tropical Medicine certificate program will offer one option to fulfill the Liaison Committee on Medical Education (LCME) requirements for research training and experience for students in the MD program. Specifically, this program will address two areas highlighted during the previous LCME accreditation review:

- *ED-12: The curriculum of a medical education program should include laboratory or other practical opportunities for the direct application of the scientific method, accurate observation of biomedical phenomena, and critical analysis of data.*
- *ED-17-A: The curriculum of a medical education program must introduce medical students to the basic scientific and ethical principles of clinical and translational research; including the ways in which such research is conducted, evaluated, explained to patients, and applied to patient care.*

The UH Tropical Medicine certificate program embodies the essence of the UHM 2011-2015 Strategic Plan "Achieving Our Destiny". The certificate program touches on each of the four Strategic Goals, specifically focusing on Goals 1 and 3; increase experimental learning opportunities across curriculum, expand and create transdisciplinary opportunities and programs, increase appreciation and understanding of cultural expression in Hawai'i and the Asia-Pacific Rim.

Finally, this program addresses first lady Michelle Obama's initiative to "train the nation's physicians to meet the unique health care needs of the military and veterans communities,"

by providing training in infectious diseases that often afflict US troops (White House press release, 1/11/2012). JABSOM is one of the 130 institutions nationwide that have committed to this important initiative⁷. The certificate in Tropical Medicine can contribute to training offered to medical students, medical residents and fellows, and physicians at Tripler Army Medical Center. Completing the courses in the clinical track of the certificate can help to prepare them for national certification in Clinical Tropical Medicine and Travelers' Health.

Program will fit within campus and/or system organizational structure

The proposed certificate program will be located in and administered by the Department of Tropical Medicine, Medical Microbiology and Pharmacology at the John A. Burns School of Medicine. Students enrolled in the certificate program will be advised by one of the faculty associated with the Department of Tropical Medicine, Medical Microbiology and Pharmacology. The program director will consult with students and faculty advisors on a regular basis to ensure students are making good progress and that the program is meeting their expectations.

Impact of program on accreditation

Academic departments within JABSOM (Department of Tropical Medicine, Medical Microbiology and Pharmacology; Department of Public Health Sciences; Department of Pediatrics) who already provide instructional support for currently offered courses in the Department of Tropical Medicine will make these courses available to students enrolled in this certificate program. The certificate program will have a positive impact on MD program accreditation since it will address the LCME requirement to diversify educational opportunities for medical students.

Program impact on campus, island and/or the state's economic development.

The certificate program will provide a new option for students and health field professionals to diversify their training to address problems associated with tropical infectious diseases that often affect nations in the Asia Pacific region and have the potential to be spread to Hawai'i and the continental US. It will also attract potential students from Asia and the Pacific Islands to come to the University of Hawai'i to obtain training in the management of these diseases that are relevant to their own countries.

Program Description

The Tropical Medicine certificate program is a 1-year program that will provide training in infectious diseases including bacteriology, mycology, virology, parasitology, laboratory diagnosis and methodology, and immunology. In addition to coursework, students will participate in a seminar course in infectious disease control and complete a capstone project related to their area of interest within the field of tropical infectious diseases. The core courses **for the proposed certificate are currently available as part of the**

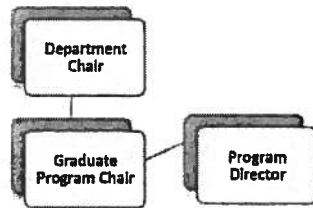
graduate degree program in Tropical Medicine, Medical Microbiology and Pharmacology and JABSOM.

Program Organization

The certificate program focuses on imparting essential knowledge and competencies in tropical medicine, laboratory skills for a low-technology setting, epidemiology and disease control, and travelers' health. The curriculum is designed to cover all core-required topics including a diagnostic laboratory component for American Society of Tropical Medicine and Hygiene (ASTMH) certification. Course content will emphasize didactic lectures, case studies and small group problem-solving sessions aimed at practical knowledge for clinician and public health professionals.

Program Administration

The certificate program will be housed in the Department of Tropical Medicine, Medical Microbiology and Pharmacology and administered by a Program Director in association with the Departments Graduate Program Chair.



Admissions criteria

To be eligible to apply, an applicant needs to possess a bachelor's degree from a regionally accredited U.S. college or university, or an equivalent degree from a recognized non-U.S. institution of higher education. At minimum, the applicant needs to demonstrate above average academic performance (B average or its equivalent) for undergraduate course work and for any post-baccalaureate or graduate course work. Students electing to pursue the clinical track for this program will need to possess a professional degree in a health science field (MD, Bachelor of Nursing, DVM, PharmD, DO, or equivalent). Applicants whose native language is not English or who have not received an undergraduate or graduate degree in an English-speaking institution will be required to take either the TOEFL or IELTS English proficiency exam as per the UHM requirement.

UH criteria for graduate certificate

A UH graduate certificate program requires a minimum of 15 credit hours of coursework at UH Mānoa, at least nine of which must be at the graduate level (600-700). We will include a capstone project (defined later in the document) to complete the experience.

Successful completion of the certificate program requires passing the required courses with a grade of B or higher, and a cumulative GPA of 3.0 for all courses counted towards the certificate. It is expected that students will complete the certificate degree program within 2 semesters of full-time enrollment or 4 semesters of half-time enrollment.

Culminating Experience

The Capstone Project provides an opportunity for students in the certificate program to pursue their own interests within the framework of the expertise offered by the Department of Tropical Medicine, Medical Microbiology and Pharmacology under the supervision of an advisor selected among faculty affiliated with the program. This project can take the form of a literature review paper of publishable quality on an aspect of Tropical Medicine, a research or career development grant proposal with the student as principal author, a competency-based examination, or other capstone project approved by the Program Director. The examination option is designed to measure a candidate's knowledge and skills in relation to an established standard rather than the performance of other candidates, and will serve as a practice examination for individuals who choose to sit for the ASTMH national Certificate of Knowledge in Clinical Tropical Medicine and Travelers' Health examination. However, successful completion of the national certificate examination will not be considered a replacement for a departmental approved Capstone Project.

Sample curriculum

Core Curriculum for Both Tracks

- TRMD 603: Infectious Disease Microbiology I: Medical Parasitology (3 credits)
- TRMD 605: Infectious Disease Microbiology II: Virology (3 credits)
- TRMD 608: Infectious Disease Microbiology III: Bacteriology & Mycology (3 credits)
- PH 666: Seminar in Infectious Disease Control (3 credits)

Track 1: Clinicians

The clinical track will require at least 3 credits in one or more of the following elective courses:

- TRMD 602: Laboratory Methods in Tropical Medicine (2 credits)
- TRMD 705: Special Topics in Tropical Medicine (Variable credit)

The following is a requirement of the clinical track:

- Capstone Project

An examination to measure a candidate's knowledge and skills in Clinical Tropical Medicine and Travelers' Health in relation to established criteria defined by the American Society of Tropical Medicine & Hygiene and will serve as the capstone

requirement for the certificate. This capstone project may be completed by enrolling in TRMD 699 Directed Reading/Research for up to 2 credits

Track 2: Non-clinicians

The non-clinical track will require at least 3 credits in one or more of the following elective courses:

- TRMD 604: Concepts in Immunology and Immunopathogenesis (2 credits)
- TRMD 607: Neurovirology (1 credit)
- TRMD 609: Advances In Medical Immunology (3 credits)
- TRMD 610: Infection and Immunity (3 credits)
- TRMD 650: Ecological Epidemiology (2 credits)
- TRMD 652: Advanced Genetics and Evolution of Infectious Diseases (2 credits)
- TRMD 653: Bioinformatics and Molecular Evolution (2 credits)
- TRMD 654: Advances in HIV/AIDS (2 credits)
- TRMD 655: Principles of Biostatistics (3 credits)
- TRMD 671: Advanced Medical Parasitology (2 credits)
- TRMD 672: Advanced Medical Virology (2 credits)
- TRMD 673: Advanced Medical Bacteriology (2 credits)
- TRMD 675: Epidemiology of Tropical Infectious Diseases (3 credits)
- TRMD 690: Seminar in Tropical Medicine and Public Health (1 credit)

The following is a requirement of the non-clinical track:

- Capstone Project
A written report for a literature-based research paper of publishable quality on a topic of Tropical Medicine of interest to the student, a research or career development grant proposal with the student as principal author, a competency-based examination, or other capstone project approved by the program director. This capstone project may be completed by enrolling in TRMD 699 Directed Reading/Research for up to 2 credits

Assessment of Student Performance

Assessment of student performance for individual courses is done through examinations, instructor and peer evaluation of oral presentations, instructor assessment of laboratory performance, and feedback from faculty interactions with students.

The required capstone project will be evaluated by a three-member assessment committee, consisting of the faculty advisor and two additional faculty members appointed by the program director in consultation with the student.

Assessment of Program Effectiveness

The effectiveness of the certificate program will be measured by demand for the program (number of applications), program completion rates, student evaluations of course offerings and curriculum, sampling of capstone projects, tracking of publication of capstone projects, and the number of participating clinicians who successfully complete the national examination leading to the Certificate of Knowledge in Clinical Tropical

Medicine and Travelers' Health (http://www.astmh.org/Certification_Program/4466.htm). The program is subject to annual review by the Tropical Medicine Graduate Program curriculum committee.

Program learning outcomes

Within the framework of conceptual knowledge developed in our courses, we are committed to ensuring that our students graduate with demonstrated ability to:

- Demonstrate a fundamental knowledge in the major sub-disciplines within the field of Tropical Medicine:
 - Bacteriology
 - Mycology
 - Parasitology
 - Virology
- Explain the epidemiological, immunological and pathophysiological basis of disease processes common in the tropics
- Summarize, analyze, and synthesize scientific and Tropical Medicine-related literature
- Articulate conclusions and implications of current issues related to the field of Tropical Medicine
- Communicate with both specialist and non-specialist audiences on topics related to the field of Tropical Medicine

Tuition and Fees

Estimated Annual Tuition Revenue (2016-2017) for Full-Time Graduate Students

STUDENTS	TUITION & FEES PER STUDENT	TOTAL
Fall 2016		
6 Resident	7,644	45,864
6 Non-resident	18,384	110,304
Spring 2017		
6 Resident	7,644	45,864
6 Non-resident	18,384	110,304
Total Estimated Annual Tuition		312,336