Proposal for MS Program in Clinical Psychopharmacology

UNIVERSITY of HAWAIʻI®
HILO

Proposal

Master of Science Degree
Clinical Psychopharmacology

College of Pharmacy
University of Hawaiʻi at Hilo

Revision Date: May 13, 2011
Proposal for a Master of Science Degree in Clinical Psychopharmacology

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Proposal for MS Program in Clinical Psychopharmacology

Executive Summary

The UH Hilo College of Pharmacy proposes a Master of Science degree in Clinical Pharmacology that would address the need of the US Army in Hawai‘i and the Pacific region for additional clinical psychologists with prescriptive authority. It would meet the anticipated growth in demand in the general population as an increasing number of states join Louisiana, New Mexico, and Guam in granting such authority to qualified specialists.

The College of Pharmacy would be the first pharmacy school in the nation to provide this distinctive training. Other institutions offer post-doctoral masters degrees in psychopharmacology through schools of psychology.

The MSCP program is consistent with the University’s mission as stated in the 2002-2010 Strategic Plan, which calls both for quality undergraduate programs and for graduate programs “where need warrants and the university has strong expertise.” The program also addresses the new University vision, for it provides advanced professional development to working clinicians, with an initial focus on those practicing in the state of Hawai‘i.

The MSCP program draws on the pharmacological expertise of existing College faculty and on the expertise of specialists in the fields of biochemistry, biopsychology, and clinical practice. It complements the College of Pharmacy’s existing Doctor of Pharmacy (PharmD) program, which is graduating its first class in May 2011; and the newly established PhD in Pharmaceutical Science, which will welcome its first students in August 2011. The College maintains its own support staff, and additional technology, library, and other support services are provided to the College as to all instructional components by the University and the UH system.

There is ample documentation of the need for clinical psychologists to be properly trained in the use of psychotherapeutic drugs and ultimately to have prescriptive authority. This need exists not only in the US military, but also in the civilian population, and not only in Hawai‘i but across the nation. The program would be extended beyond the military setting to qualified professionals in the growing number of states that are expected to grant such authority to those with the training in psychopharmacology offered by such programs as the MSCP. There is a strong possibility that Hawai‘i will eventually be among those states.

A partnership with Tripler Army Medical Center (TAMC), begun in Fall 2010, provides funding for faculty, course design and materials, student support, and clinical supervision for the next three years. The first cohorts of the MSCP program will be PhDs in clinical psychology who are on staff at TAMC and associated military facilities.

Curriculum and support systems developed, assessed, and refined with TAMC support will enable the College to establish a quality program that can be sustained for the foreseeable future. The MSCP program curriculum is a rigorous one, challenging highly trained specialists in clinical psychology to gain mastery of the complex field of psychotropic medication and its
application in therapeutic settings over the course of two academic years and two summers. Students must demonstrate, by the completion of the program, a high level of competence in eleven content areas of didactic and clinical knowledge; all aspects of information retrieval and communication underlying the program learning outcomes; and medication therapy management specific to psychopathology.

The College of Pharmacy is situated on Hawai`i Island; accordingly, the MSCP program will be delivered to students at TAMC by a combination of technology-mediated modalities and onsite, face-to-face interactions between faculty and students. Program delivery modes can be adapted to reach students across a broader geographical range, including those serving at US military hospitals outside the country.

Student numbers will range between four and ten per cohort for the first three years and will be determined by TAMC; however, it is anticipated that demand for the program will grow over the coming years as more states follow the US military in granting prescriptive authority to clinical psychologists who have acquired appropriate training.

Program effectiveness will be monitored and documented by a number of means, including internal assessment of student examinations, reports, and other performances; appraisals of clinical supervisors; and pass rates of MSCP students in the American Psychological Association’s Psychopharmacology Examination for Psychologists, used by state licensing boards for testing licensed clinical psychologists who seek prescriptive authority. Student satisfaction and post-program success will be gauged through student interviews, surveys, focus groups, and employer surveys. The College has a fulltime Assessment Coordinator whose responsibilities include the MSCP program.

Direct program costs for the three years 2010-2013 are covered by TAMC, as indicated in the attached budget projection. At the current rate of graduate tuition for UH Hilo, total cost is $11,558 for in-state students. TAMC will pay instate tuition and fees for its fellows.

In sum, the MSCP program meets BOR criteria for evaluation of graduate programs and Executive Policy 5.201.Appedix B Guidelines for New Programs.
Institutional Context

The College of Pharmacy, University of Hawai‘i at Hilo, admitted its first class of candidates for the Doctor of Pharmacy degree in Fall 2007 and has admitted a new class each subsequent fall. The College was granted Candidate status by the Accreditation Council for Pharmacy Education (ACPE) in June 2008 and anticipates full accreditation following the graduation of its first class in May 2011. In addition to the Doctor of Pharmacy program, which sustains four cohorts of 90 students each, the College will begin to offer the Ph.D. in Pharmaceutical Sciences in Fall 2011.

The College is comprised of two academic departments, the Department of Pharmaceutical Sciences and the Department of Pharmacy Practice; and support units, including the Office of the Dean, the Division of Academic Affairs, the Division of Student Affairs, the Department of Research, the Research Laboratory, and technical support staff. It shares the services of a Medical Librarian assigned by the UH Hilo Mookini Library, as well as those of the University’s Divisions of Academic Affairs, Student Affairs, and Administrative Affairs. A full-time professional Assessment Officer serves all academic programs in the College.

A total of 22 faculty members will provide lectures for the MSCP program. Sixteen are full-time College of Pharmacy faculty (of which two have tenure), one is a full-time nursing professor and one is a full-time, tenured Chemistry professor. The remainder of the group is comprised of one part-time College of Pharmacy lecturer, two program coordinators and one librarian who will also provide instruction. Faculty CVs are available on request.

Consistent with the UH system strategic outcome to address critical workforce shortages, the MSCP program will help address the health professional shortage in Hawai‘i by expanding the competencies of licensed, doctoral-level psychologists currently practicing here. Consistent with the UH Hilo strategic goal to obtain sufficient resources to support enrollment growth and high quality programs, the MSCP program will be funded initially by the Tripler Army Medical Center and by leveraging existing resources and expertise within the College of Pharmacy. The MSCP program is also aligned with the College of Pharmacy strategic plan, which was approved by UH System President Greenwood on January 18, 2010 in accordance with UH Board of Regents Policy 4-3(d).

Specifically, the MSCP program advances the achievement of the following strategic education goals of the College of Pharmacy:

1. Launch graduate programs in both academic departments.
2. Develop continuing education programs to support lifelong learning for healthcare professionals/clinicians.
3. Broaden the pool of clinicians able to safely manage medications and improve patient access.
Program Goals and Objectives

The objective of the MSCP program is to provide a rigorous, advanced education in clinical psychopharmacology to licensed, doctoral-level, practicing psychologists to enable them to safely and effectively prescribe medications for their patients in accordance with all relevant state and federal laws.

Additionally, in states that do not allow such prescriptive authority, this program will enhance the ability of clinical psychologists to consult with primary care physicians and psychiatrists about appropriate drug therapy for their patients.

Initially the proposed program will provide graduate-level training in psychopharmacology for students who have earned a Ph.D. in Clinical Psychology and who also work for the Armed Services. Such clinical psychologists can gain the license to prescribe medication to mental health patients within the Armed Services.

Following the completion of the current contract between UH Hilo and Tripler Army Medical Center (TAMC; contract available upon request), the MSCP program will be made available to any student seeking a higher degree of understanding of the principles of psychotherapeutic drugs. The concentrated training of psychotherapeutic drugs achieved in a Master of Science in Clinical Psychopharmacology program is attractive to licensed psychologists outside of the Armed Forces. Psychiatric nurses also may benefit from the didactic knowledge gained from this program. Individual courses in psychopharmacology, neuroscience and pharmacotherapeutics would also be of benefit to non-matriculated students seeking a broader background in these fields.

Upon completing the MSCP program, successful students will be able to:

1. define, identify and recognize key concepts of terminology in all content areas specified in the Content Area matrix (see “Assessment of Student Performance” below)
2. review and explain at a high level of proficiency, both orally and in writing, the most current theories of the pathophysiology, etiology, signs and symptoms underlying mental health disorders and their psychopharmacologic treatment
3. choose the appropriate diagnosis and effectively apply psychopharmacological knowledge to resolve clinical psychopathological cases using “Subjective, Objective, Assessment and Planning” (SOAP) notes and case presentations, and differentiate mental disorders that are drug-induced or caused by somatic disease
4. analyze, interpret, integrate and evaluate pharmacologically-based clinical findings in psychological settings through literature review, class presentations and written analysis
5. devise, formulate and plan medication therapy management specific to psychopathology, with an emphasis on drug selection based on relative efficacy for the disorder, adverse effect profiles, food and drug interactions, and
pharmacokinetics, and determine appropriate pharmacologic assessment and monitoring

6. demonstrate the ability to compare, contrast and interpret epidemiological, professional, legal and ethical findings in the clinical psychopharmacology literature and case presentations using information technology.

Program Need and Justification

Growing Trend: Prescriptive Authority for Clinical Psychologists

Currently, the U.S military, Guam and two states—New Mexico and Louisiana—allow prescriptive authority to licensed, doctoral-level psychologists who have completed advanced education in psychopharmacology and passed a national certification exam.

The proposed MSCP program would be the first in the nation offered by faculty with extensive expertise in pharmacology and integrated pharmacotherapeutics solely within a College of Pharmacy. It will enable clinical psychologists on staff at TAMC to meet the Army’s educational requirements for psychologists with prescriptive authority.

Hawai`i is but one of several states considering new legislation to permit psychologists to prescribe medications; other states include Michigan, Missouri, Montana, Nebraska, New York, Oregon, Ohio, Tennessee, and Texas. Indicating a growing trend, there are already six post-doctoral programs in clinical psychopharmacology offered by US universities through schools of psychology or education.

Meeting Needs of the Military in Hawai`i. The US Department of Defense established the Psycho-Pharmacology Demonstration Project (PDP) in 1991, with the aim of preparing “psychologists who, with the necessary training and supervision, could safely and effectively use psychotropic medication as one component of their military armamentarium.”1 The PDP set rigorous standards that exceeded those recommended by the American Psychological Association. The criteria established by the PDP were drafted by a blue-ribbon panel of experts that included representatives from the American Association of Medical Colleges and the Accreditation Council for Graduate Medical Education. The proposed MSCP program is designed to bring students to levels needed to meet these standards.

The military community in Hawai`i will enjoy tremendous benefits if there are additional clinical psychologists at TAMC who have prescriptive authority. According to the 2010 US Census, there were 40,874 active military personnel stationed in Hawai`i as of September 2009,2 a population almost as large that of Hilo, Hawai`i. The successful training of clinical

2 http://www.census.gov/compendia/statab/2011/tables/11s0507.pdf
psychologists in the art and science of psychopharmacology will afford improved mental health treatment for our service men and women and their families.

Military personnel present distinctive needs in pharmacologic treatment for mental health problems arising from service-related experiences. Recent media attention to this issue highlighted concerns regarding the unique problems facing psychopharmacology in the military; factors include polypharmacy due to treatment of mental health and physical pain from combat, traumatic stress, multiple sources of controlled substances and increased risk of suicide.\(^3\) Furthermore, a strong co-morbidity between heavy alcohol use and mental health problems for active military personnel has been reported.\(^4\) Active military personnel also were reported not to comply with prescriptions for high blood pressure.\(^5\)

The families of deployed military personnel require additional consideration. A recent study of 250,626 wives of deployed active-duty U.S. Army soldiers demonstrated statistically significant elevations in diagnoses of depressive disorders, sleep disorders, anxiety and acute stress reaction and adjustment disorders as compared to those married to non-deployed soldiers.\(^6\)

Higher rates of mental and behavioral health visits were reported for children of deployed military personnel as compared to those of non-deployed soldiers.\(^7\) Over 600,000 mental and behavioral health out-patient visits were reviewed for this retrospective cohort study of children between 3-8 years of age. An 11% increase in visits was found after a parent was deployed. Conditions of attention-deficit, adjustment, behavioral, stress and autistic disorders were most frequently reported.

Serving the People of Hawai‘i. Given that the military already has given prescriptive authority for clinical psychologists, this program will have a dramatic impact on the Hawai‘i community. As of January 2007, there were 1,373,534 Asian Americans and Pacific Islanders serving in active duty in the U.S. Armed Services, of which 3,237 are Native Hawaiian.\(^8\)

Over the long term, the MSCP program offers a path to Hawai‘i’s clinical psychologists to provide better mental health care to the state’s population, including those of Native

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\(^8\) [http://dpc.senate.gov/dpcdoc.cfm?doc_name=fs-110-1-14](http://dpc.senate.gov/dpcdoc.cfm?doc_name=fs-110-1-14)
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Hawaiian background. When the state legislature grants prescriptive authority to clinical psychologists with an MSCP degree, the program will be poised to enable clinical psychologists to prescribe psychoactive medications to Hawai`i residents, some of whom will be Native Hawaiian.

Suicide and Alzheimer’s disease are the ninth and tenth leading causes of death for Native Hawaiians and Other Pacific Islander (NHOPI) populations.\(^9\) Native Hawaiians and Other Pacific Islander populations are known to suffer from a disproportionately high rate of HIV/AIDS and present with the neuropsychological sequelae of this condition.\(^10\) Cultural and language barriers that affect the NHOPI population may be more readily overcome by psychologists who are treating the patient therapeutically as well as pharmacologically.

Issues of cultural sensitivity between the US military and Native Hawaiians are longstanding and complicated. In March 2010, however, concrete efforts to repair this relationship were made by the Army through the US Army Covenant with Native Hawaiians.\(^11\) This document emphasizes the special relationship between the Army and the Hawaiian people including the health and well-being of the members of both groups. The proposed MSCP program at least partly meets the spirit of this covenant to help ensure that the mental health of Army personnel and the Native Hawaiian community are respected and nurtured.

As evidenced from letters of support by students, legislators, and community leaders (Appendix B and Appendix C), this program is viewed across the State as an important landmark for the improvement of the mental health of the residents of Hawai`i.

Workforce Enhancement in Hawai`i. The MSCP program offers the University the opportunity to address workplace shortages for Hawai`i. All of Molokai, two thirds of Hawai`i County and portions of Maui and Kauai are Federally Designated Mental Health Professional Shortage Areas (HPSA).\(^12,13\) Recent resident population projections suggest that the growth of non-military populations for all Hawaiian islands will double or triple in ten years, emphasizing the need to create educational opportunities in the mental health profession now to meet these increases in our future population.\(^14\) In Hawai`i, the location of suitably-

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\(^14\) Dall T, The Lewin Group, Current and Future Demand for Physicians in the U.S. and Hawaii (preliminary findings) Hawaii Physician Workforce Summit, June 29, 2010 [http://www.ahec.hawaii.edu/docs/Dall_HI_presentation_6-29-10.pdf](http://www.ahec.hawaii.edu/docs/Dall_HI_presentation_6-29-10.pdf)
trained specialists often results in certain rural areas being underserved. By providing a post-graduate degree program based on distance technology, the MSCP program improves the possibility that underserved areas and population growth estimates will be met by future graduates.

**Addressing International Needs** The MSCP program meets international needs in an immediate way. The clinical psychologists serving in the Armed Forces are translocated around the world in their service to the United States. Of the students currently enrolled through TAMC, one serves as the Director of Telebehavioral Health and Surge Support program, which covers Japan, Guam and other foreign countries.

The goals of the MSCP program are commensurate with those of the UH Hilo International Student Services office, which “are to advance learning and scholarship, and to increase intercultural understanding and respect in a global community.”15

**Demand for Graduates**

With the MSCP program and successful completion of the Psychopharmacology Examination for Psychologists (PEP), clinical psychologists serving in military hospitals, in Guam, and in Louisiana and New Mexico are assured of employment. As more states grant prescriptive authority to qualified clinical psychologists, demand for MSCP graduates will grow, in particular because of the particularly strong preparation in pharmacology and pharmacotherapeutics offered through the College of Pharmacy.

**Professional Development for Clinical Psychologists.** Whether or not prescriptive authority is granted to clinical psychologists in Hawai`i, potential demand for graduates is reflected by the improvements to patient care state-wide. The MSCP training program intensifies the student’s knowledge in the psychopharmacology, physiology, epidemiology and brain chemistry of mental health conditions. The sophistication and scholarship that accompanies training of this kind is of direct benefit to patients being treated by MSCP graduates. Primary care physicians, who currently treat the majority of patients with mental health disorders, also will benefit from an improvement in knowledge within practitioners in the mental health care community who seek the MSCP program degree.

The Hawai`i Psychology Association is comprised of over 200 members. Clinical psychologists will actively seek to further their education in psychopharmacology in order to better treat their patients. In broader terms, the US Bureau of Labor Statistics estimates that 34% of psychologists are self-employed, mainly as private practitioners and independent consultants. Employment growth for psychologists ranges between 11 and 26 percent, depending on specialty. The Bureau also noted that employment for psychologists, which includes those with a master’s degree in psychopharmacology, “will grow because of

15 [http://www.uhh.hawaii.edu/studentaffairs/international/](http://www.uhh.hawaii.edu/studentaffairs/international/)
increased demand for psychological services in schools, hospitals, social service agencies, mental health centers, substance abuse treatment clinics, consulting firms, and private companies.”

**Relationship to Other Programs at UH Hilo and in the UH System**

The UH Hilo College of Pharmacy is the only institution in the state of Hawaiʻi that offers graduate study in pharmacy practice and the pharmaceutical sciences. The MSCP program will similarly be unique in the system and the state.

The Human Physiology and the advanced MSCP courses will draw on faculty of the College of Pharmacy. The first two courses in the program, The Biochemical Basis of Therapeutics I and II, are taught by a UH Hilo biochemistry professor. Future contributors may be drawn from other UH Hilo disciplines and from JABSOM and CRCH.

**Similar Programs at Comparable Institutions**

The proposed MSCP program will be the first in the nation that is wholly situated in a college or school of pharmacy. Comparable masters programs are currently offered through traditional psychology departments, or, in the case of New Mexico State University, the College of Education. Tripler Army Medical Center formerly contracted with Argosy University in Honolulu to provide a master’s program in psychopharmacology.

The following table displays other clinical psychopharmacology students in the nation. Appendix D provides a comparison of the curricula of these programs with that of the UH Hilo College of Pharmacy MSCP program.

<table>
<thead>
<tr>
<th>Institution</th>
<th>Program</th>
<th>Degree</th>
</tr>
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<tbody>
<tr>
<td>UH Hilo</td>
<td>College of Pharmacy</td>
<td>Master of Science in Clinical Psychopharmacology</td>
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<tr>
<td>Nova Southeastern University</td>
<td>Center for Psychological Studies</td>
<td>Master of Science in Clinical Psychopharmacology</td>
</tr>
<tr>
<td>Argosy University</td>
<td>American School of Professional Psychology</td>
<td>Master of Science in Psychopharmacology</td>
</tr>
<tr>
<td>Fairleigh Dickinson University</td>
<td>School of Psychology</td>
<td>Postdoctoral Master of Science in Clinical Psychopharmacology</td>
</tr>
<tr>
<td>Alliant International University</td>
<td>California School of Professional Psychology</td>
<td>Postdoctoral Master of Science in Clinical Psychopharmacology</td>
</tr>
<tr>
<td>New Mexico State University</td>
<td>College of Education</td>
<td>Interdisciplinary Master of Arts in Clinical Psychopharmacology for Psychologists</td>
</tr>
</tbody>
</table>
Program Description and Degree Requirements

The MSCP curriculum is comprised of 33 required credits. Beginning with a strong foundation in biochemistry and physiology, the curriculum for the MS degree in Psychopharmacology reflects current best practice in teaching evidence-based medication therapy management through intensive coursework in Integrated Pharmacotherapy.

The integrated pharmacotherapy series is the core of the curriculum and combines all aspects of pharmaceutical care with therapeutic knowledge. Advanced Psychopharmacology I and II, taught during the final two semesters, serve as the capstone courses. This curriculum is designed to provide an in-depth coverage of pharmacotherapy associated with the treatment of mental disorders.

A list of program courses with catalog descriptions is available upon request, as are a schedule displaying two cohort cycles with instructors; and course syllabi.

As indicated in the matrix below, the psychopharmacology practicum must be completed over two semesters and a summer. This is indicated by the distribution of credits for the practicum, which is taken over three terms: 0 credits for the fall and spring and 2 credits in the summer.

The Psychopharmacology Practicum courses will require students to demonstrate competence in medication therapy management specific to psychopathology. Practicum hours are similar to an internship in that the practicum hours are performed outside of the classroom in a clinical setting, for eight hours per week, during two semesters and a summer. The clinical practicum will contain a minimum of 400 hours. Each candidate must see a minimum of 100 separate patients. Practicum components will be consistent with American Psychology Association recommendations.

Students will be supervised by a qualified clinical practitioner with demonstrated skills and experience in clinical psychopharmacology in accordance with the prevailing jurisdictional law. Students will be actively involved in consultation with physicians and/or appropriately credentialed psychologists regarding the prescribing of psychoactive medications. At the end of the training program, a capstone competency evaluation will be completed. For the TAMC cohorts, this evaluation will be in accordance with the “Memorandum UH Hilo-TAMC Psychopharmacology Practicum” (available upon request). For subsequent, non-TAMC cohorts, a similarly rigorous review will be applied.
In addition, students seeking prescriptive authority will be required to pass the PEP, offered by the American Psychological Association’s (“APA”) College of Professional Psychology to eligible licensed psychologists. The PEP is used by state licensing boards for testing licensed clinical psychologists who seek prescriptive authority. This examination is described in more detail in the Program Assessment section below.

**Technology-Mediated Course Delivery.** Program students will be serving at TAMC on the island of Oahu, while program faculty members are situated at the College of Pharmacy in Hilo. Content courses, such as the biochemical basis of therapeutics and human physiology, are presented in a combination of pre-recorded lectures made available asynchronously and online, seminar-style onsite workshops associated with the courses, and synchronous Elluminate Live! discussions and review sessions. This multi-modal format enables students to master large amounts of information according to their own life and work schedules, while allowing for instructors to reinforce learning and provide prompt feedback. In future cohorts, which may involve students in practice in non-military settings in other states, onsite visits can be replaced with synchronous Elluminate sessions.
As noted above, for the TAMC cohorts, the practicum courses will be offered onsite and students will perform 400 hours of clinical training over two semesters and a summer, under the direct supervision of a qualified onsite clinician. In future cohorts, students will be subject to the same hours requirement and will be responsible for identifying their own clinical training sites near their place of residence, with program staff certifying the appropriateness of the site and clinical supervisors and ensuring that program protocols and assessment requirements are met.

**MSCP Program Admission**

This program is designed primarily for students who hold a PhD in Clinical Psychology. The first cohorts will be comprised of qualified staff of the Tripler Army Medical Center.

Following the completion of the contract with TAMC, the MSCP program will be made available to any student seeking a higher degree of understanding of the principles of psychotherapeutic drugs. The concentrated training of psychotherapeutic drugs achieved in a Master of Science in Clinical Psychopharmacology program is attractive to licensed psychologists outside of the Armed Forces. Psychiatric nurses also may benefit from the didactic knowledge gained from this program. Individual courses in psychopharmacology, neuroscience and pharmacotherapeutics would also be of benefit to non-matriculated students seeking a broader background in these fields.

**Admissions Process.** Students will submit all application materials to the UH Hilo College of Pharmacy MSCP Program Admissions Committee, who will select entrants into the program. The admission criteria and procedures conform to the UH Graduate Division’s standards post-graduate programs, posted at http://hilo.hawaii.edu/academics/graduate.

**Minimum Qualifications for Acceptance.** Each applicant for the MSCP program must hold a baccalaureate degree and a graduate (PhD) degree in clinical psychology from a regionally accredited U.S. college or university, or its equivalent from a recognized non-U.S. institution of higher learning. The standards of the degree in question must be equivalent in scholarship requirements to those maintained in the undergraduate program at the University of Hawai’i at Hilo.

**Grade Point Average (GPA).** The applicant must have a GPA of 3.0 or the equivalent from the last 60 semester credits (or equivalent) in the undergraduate degree completed, or must hold a graduate degree with a GPA of 3.0 or better in his/her graduate program. Under special circumstances, a GPA of 2.75 or higher will be considered based on the applicant’s other qualifications and subject to the petition process noted above.
Program Administration and Advising

Administration. The MSCP program will be administered by the following:

- The MSCP Director, Edward Fisher, PhD, who also serves the CoP Associate Dean for Academic Affairs. The Director has led the development of the MSCP Program curriculum; oversees MSCP program administration and academic quality; and evaluates and grades research papers.
- The MSCP Coordinator, Judi Steinman, PhD, who developed MSCP program syllabi with faculty, manages staff, oversees lecture recording and online learning logistics; lectures in pharmacoepidemiology; evaluates research papers; and advises students.
- The MSCP Clinical Coordinator, Danita Henley, PharmD, who will oversee the clinical components of Integrated Pharmacotherapeutics and Advanced Psychopharmacology; present live workshops; evaluates SOAP notes, case presentations; and advise students.
- The CoP Assessment Coordinator, Paula Zeszotarski, PhD, who will prepare assessment tools, gather and maintain assessment records, conduct program assessment, including focus groups, surveys, and post-graduate performance.

Advising. Students will be advised by the Program Coordinator and Clinical Coordinator, each of whom will be responsible for overseeing the academic progress and well-being of between four and ten students per year.

The College recognizes the importance of maintaining open and frequent communication between students and faculty. While faculty remain primarily responsible for delivery of course content, the frequent onsite workshops and web-conference-style Elluminate Live! sessions will ensure, for Hawai`i-based students, a high level of interaction with faculty and program staff.

Curricula vitae of program staff are included with those of instructional faculty.

Assessment of Student Performance and Other Indicators of Program Effectiveness

The faculty program committee is responsible for designing and implementing direct assessment of student learning, identifying signature assignments, refining rubrics, gathering and reviewing the results of assessment activities, and using these results to sustain quality in program pedagogy and curriculum.

Since May 2, 2011, the College has employed a fulltime Assessment Coordinator (CV is included with those of instructional faculty and program staff.) While faculty will remain
responsible for assessing student learning by direct means, the assessment director will focus on indirect assessment. She will work with student focus groups and create surveys on passing rates on the American Psychological Association’s College of Professional Psychology Psychopharmacology Examination (PEP), job placement of students, and the effects on their careers of having obtained the MSCP degree had on their careers. Indirect assessment tools will also include benchmarks such as student evaluations, alumni evaluations and faculty evaluations. Evaluations will be tailored after the already existent assessment tools in the CoP and will be combined with existent assessment tools available for evaluation of distance learning programs.

In addition to program assessment processes, TAMC will be monitoring individual student performances as specified in the contract between TAMC and UH Hilo.

Assessment of Mastery of Content and Professional Skills. The overall learning outcomes of the program are to have students demonstrate mastery in eleven knowledge content areas. Additionally each knowledge content area has its own learning outcomes. The courses offered in the program are listed in the table on the following page mapped to the knowledge content areas. A detailed list of areas and outcomes is available on request.

Publication of Learning Outcomes. The learning outcomes will be published in the program summary sent to all prospective students, on the program’s departmental website, and in the program’s Guide For Graduate Students given to all prospective and admitted students.

Mapping Learning Outcomes into the Program. The CoP is currently creating lecture learning objectives for all core courses, when such recording lectures are used in the program, along with the learning objectives of new lectures to be recorded/ provided will be mapped to the program learning outcomes to assure students are being provided the information necessary for mastery of this discipline.

Assessment Events. Course syllabi (available on request) describe assessment activities include multiple choice exams, essay exams, written assignments (SOAP notes and research papers), presentations (research and cases). Students will be expected to be able to communicate both orally and in writing at a high level of proficiency. This will be evaluated by grading written assignments (SOAP notes and research papers) and both research and case presentations. Final exams are typically cumulative. All presentations and written assignment will be graded by creating rubrics for each activity.

Content Knowledge Areas. Students are expected to master eleven knowledge content areas, which are derived directly from the American Psychological Association’s College of Professional Psychology Psychopharmacology Examination (PEP), described below. TAMC students must pass this examination in order to receive their degree, in accordance with the UH Hilo TAMC contract. These areas are summarized below; a detailed list of the components of each area is available on request.
<table>
<thead>
<tr>
<th>Content Knowledge Areas</th>
<th>Courses</th>
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<tbody>
<tr>
<td>Integrating clinical psychopharmacology with the practice of psychology</td>
<td>Advanced Psychopharmacology I (PHPS 604)</td>
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<td></td>
<td>Psychopharmacology Practicum (PHPS 607)</td>
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<tr>
<td>Neuroscience</td>
<td>The Biochemical Basis of Therapeutics I – Biomolecules (PHPS 450)</td>
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<tr>
<td></td>
<td>The Biochemical Basis of Therapeutics II - Metabolism (PHPS 451)</td>
</tr>
<tr>
<td>Nervous system pathology</td>
<td>Human Physiology (PHPS 606)</td>
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<tr>
<td></td>
<td>Integrated Pharmacotherapy II (PHPS 602)</td>
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<tr>
<td>Physiology and pathophysiology</td>
<td>Human Physiology (PHPS 606)</td>
</tr>
<tr>
<td></td>
<td>Integrated Pharmacotherapy I,II,III (PHPS 601, 602, 603)</td>
</tr>
<tr>
<td>Biopsychosocial and pharmacologic assessment and monitoring</td>
<td>Advanced Psychopharmacology I (PHPS 604)</td>
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<td></td>
<td>Psychopharmacology Practicum (PHPS 607)</td>
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<td>Differential diagnosis</td>
<td>Integrated Pharmacotherapy II (PHPS 602)</td>
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<td></td>
<td>Psychopharmacology Practicum (607)</td>
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<tr>
<td>Clinical psychopharmacology</td>
<td>Advanced Psychopharmacology II (PHPS 605)</td>
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</tr>
<tr>
<td>Professional, legal, ethical and interprofessional issues</td>
<td>Integrated Pharmacotherapy III (PHPS 603)</td>
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The major external means of assessment of student learning is the American Psychological Association’s (“APA”) College of Professional Psychology offers the Psychopharmacology Examination for Psychologists (PEP) to eligible licensed psychologists. The PEP is used by state licensing boards for testing licensed clinical psychologists who seek prescriptive authority. The APA offers the PEP to qualified psychologists to meet the regulatory requirements for those states that have prescriptive authority. The PEP is recognized by The Association of State and Provincial Psychology Boards (ASPPB), the alliance of state, provincial, and territorial agencies responsible for the licensure and certification of psychologists throughout the United States and Canada.

The PEP is a three-hour examination administered electronically to test didactic comprehension in psychopharmacology. The PEP was designed to assess knowledge in the ten content areas that serve as the foundation of the proposed MSCP program: neuroscience, nervous system pathology, physiology and pathophysiology, biopsychosocial and pharmacologic assessment and monitoring, differential diagnosis, pharmacology, clinical psychopharmacology, research, and professional, legal, ethical, and interprofessional issues.

**Assessment of Student Satisfaction and Post-Graduate Performance.** Other assessment tools will include benchmarks such as student evaluations, alumni evaluations and faculty
evaluations. Evaluations will be tailored after the already existent assessment tools in the CoP and will be combined with existent assessment tools available for evaluation of distance learning programs.

Program Review. The MSCP program will also be integrated into the UH Hilo program review schedule and administrators and faculty will complete a self study, external review, and report conforming to UH Hilo program review guidelines. In accordance with program review procedure, the review will culminate in a meeting with the Vice Chancellor for Academic Affairs at which representatives of the program and the college will meet with the VCAA to establish next steps for the program.

Anticipated Student Demand and Enrollment

Once the MSCP program is initiated there will be significant interest from local and national students who will want to participate in such a truly unique learning opportunity. Currently, four students have registered for classes as non-classified graduate students, even before the MSCP program entered the new program approval stage. It is anticipated that between five to 10 students per year will enter the program each year.

Interest in the program is clearly expressed in the letters from students currently registered for classes as well as from prospective students (see Appendix B).

Resources Required and Resources Available

Tripler Army Medical Center is providing $132,480; $92,549; and $49,229 over the three years Fall 2010-Summer 2013. These funds are being used for program development, curriculum development and delivery, and support staff, as described in the program costs section below.

The salaries of the fulltime program coordinator and fulltime program clinical supervisor are covered by the TAMC contract, as are traveling expenses and supply expenses for recording, transmitting and archiving course material. The curricula vitae of these coordinators are included with those of faculty.

TAMC is also paying full program tuition for professionals enrolled in the MSCP program.

Other resources needed for the program are available from existing College or UH Hilo or UH system sources.

Faculty. A total of 22 faculty members will provide lectures for the MSCP program. Sixteen are full-time College of Pharmacy faculty (of which two have tenure), one is a full-time
nursing professor and one is a full-time, tenured Chemistry professor. The remainder of the group is comprised of one part-time CoP lecturer, two program coordinators and one librarian who will also provide instruction.

The College of Pharmacy is distinctively qualified to offer the MSCP program with its existing faculty. Currently, the College of Pharmacy offers and administers a professional degree in Pharmacy (PharmD) and so has faculty qualified and capable of teaching, mentoring and supporting graduate students in psychopharmacology. College of Pharmacy faculty will provide the prerecorded didactic lectures described above and will interact with students during the semester of instruction via site visits, synchronous Elluminate sessions, and email and other communication on Laulima. (Faculty CVs are available on request.)

Additional support staff and educators who cover specific topics (e.g., law, ethics, regulatory issues) currently are supported through the contract with TAMC Existing support staff, the Planning Director of the Tripler grant, and CoP Student Services staff will be able to deal with correspondence, admissions, and administration of the MSCP program.

The curriculum outlined in this proposal includes lectures already offered to our current Pharm.D. students (videorecorded for MSCP students to view at their convenience in accordance to course scheduling) along with newly created lectures, courses, seminar hours, student grading and assisting, and operations support that will be required solely for the program.

Because there will be significant overlap between the content of the MSCP degree and the current PharmD degree, only 2.0 new faculty FTE’s (non-tenure track) will be needed, and there will be no significant increase in workload for existing faculty FTEs. These additional faculty members will be non-tenure track under the current funding paradigm, since they are supported by a federal grant. One is the Program Coordinator, who is responsible for the overall integration of the material, and for the basic science component. The other FTE will be a Clinical Coordinator who will be responsible for all of the clinical aspects of the program except for the practicum. Vitae of these personnel are included with faculty CVs.

Student Services. The COP Director of Student Services (DSS), who supervises one full time Academic Advising Specialist, one full time Admissions Counselor and two part time student employees will oversee the admission process for the MSCP program. The staff of the college OSS addresses the needs of prospective and incoming students as well as aids the current students in their progression through their degree program. Financial aid is not an issue for students in the TAMC cohorts, who receive salaries from TAMC, which also pays their tuition and fees. However, the UH Hilo Financial Aid Office provides guidance in financial aid for all eligible students.

UH Hilo provides the full range of services to students, including doctoral students: Admissions, Records (includes registration), Counseling, and Financial Aid through the Division of Student Affairs.
Library Services. UH Hilo’s Mookini Library supports the MSCP program’s goal of embedding library resources into the curriculum through various avenues such as assignments requiring use of published materials (available online), the library’s specialized information portal, and course reserve materials. The library has purchased or licensed all the resources from the Basic Resources for Pharmaceutical Education List to support the College of Pharmacy. The library subscribes several specialized drug information databases and is part of the Hawai‘i Medical Library Consortium.

A full-time permanent medical librarian serves as library liaison for the College of Pharmacy. The medical librarian is the primary contact for the pharmacy program and the university library. The librarian develops and maintains information resources in pharmacy and biomedical sciences; helps select, evaluate, and monitor print, electronic, and web resources. In addition, the library has designated a librarian to provide support for all distance learning students and programs. The DL librarian maintains a webpage with links to tutorials and to UH system library services and resources as well as to UH Hilo online course reserve materials.

Technology and Technology Services. College of Pharmacy IT infrastructure includes three Apple XServe servers, one Mac Pro Server, an XServe RAID and a Tape Backup unit, as well each faculty and staff member has access to either a Mac or PC, laptop or desktop computer. Servers now support BLOGs, WIKIs VPN and web-based calendars in addition to other services. Classrooms are equipped with multimedia, access to the internet, distance-capable interactive television and video, as well as access to standard instructional software. The college IT infrastructure is maintained and supported by two full-time staff members with a third being recruited during the present school year.

College of Pharmacy faculty have unlimited access to Elluminate Live! through UH Hilo’s, license. Elluminate Live! provides options for lecture capture, delivery, recording, storage, and asynchronous access; webpage sharing; online file sharing; and web conferencing between instructor and students in class or individual students. The College also has full access to the UH system’s Laulima (Sakai) online Learning Management System and the system’s broad range of instructional technology online resources. In addition to instructional use of technology, UH Hilo, as part of the UH system, has fully functional administrative and student services computer systems to handle a wide range of campus functions.

Through the UH Hilo’s Office of Instructional Technology and User Services and College of Continuing Education and Community Service, faculty have access to workshops and one-on-one assistance on technology-based course delivery and course design.
Physical Facilities. The physical requirements for the MSCP program are minimal. TAMC’s Department of Psychology has a conference room available for the scheduled face-to-face seminar-like workshops, and TMC provides the clinical settings for the practicum sessions.

In Hilo, lectures are recorded in existing classrooms with existing equipment and software. Offices are provided for the program coordinator and for the clinical supervisor.

A description of current College of Pharmacy office, research, and classroom facilities is available on request.

Anticipated Cost

Appendix A provides the academic cost and revenue template for the MSCP program, notes for projected costs and revenues, and narrative explaining specific items.

Costs include faculty salaries, administrative program support, faculty salary, information technology support, travel, and equipment and supplies. Costs of the first three years of the program will be covered by funding from Tripler Army Medical Center, which will also pay student tuition.

Enrollment is projected to increase by five students per year as each new cohort begins. Once the program is established, a total enrollment of 20 students per year is projected, nine to eleven in their first year and the rest in their second (final year). At the current rate of graduate tuition for UH Hilo, total cost per student is $11,558 for Hawai‘i residents.
Proposal for
The Master of Science
in
Clinical Psychopharmacology

Appendices

Appendix A. Academic Cost and Revenue Template, Notes, and Narrative
Appendix B. Letters of Support from Potential Students
Appendix C. Letters of Support from Community and Legislative Leaders
Appendix D. Comparison of Curricula of Clinical Psychopharmacology Programs
Appendix A

Academic Cost and Revenue Template, Notes, Narrative
### Students & SSH

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### Direct and Incremental Program Costs Without Fringe

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### J. Net Cost (Revenue)

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### Program Cost per SSH With Fringe

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### Instruction Cost with Fringe per SSH

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Program used for comparison. UH-Hilo Graduate Level Natural Science
### Notes to Academic Cost and Revenue Template

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<td>$190,962</td>
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<td><strong>D. Other Personnel Costs</strong></td>
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<td><strong>F. Tuition Rate Per Credit</strong></td>
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<td>$ -</td>
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<tr>
<td>Grant</td>
<td>$132,480</td>
<td>$92,549</td>
<td>$49,229</td>
<td>$49,289</td>
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<tr>
<td>Grants total</td>
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<td>$92,549</td>
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<td>$49,289</td>
<td>$49,293</td>
<td>$51,265</td>
</tr>
<tr>
<td>Total</td>
<td>$132,480</td>
<td>$92,549</td>
<td>$49,229</td>
<td>$49,289</td>
<td>$49,293</td>
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Narrative for Academic Cost and Revenue Template

A. Headcount enrollment
The proposed cost and revenue template is based on an initial cohort of 10 students being enrolled in the program for the fall 2011 semester. The calculations based on the notes found in Appendix D are averaged over time and depend on the assumption that all years are equal in headcount enrollment.

In fact, the first year enrollment numbers are based on the following actual numbers. Four of the students in the initial cohort from TAMC currently are taking courses on an experimental basis. The remaining six students will be new students from TAMC who will begin their coursework in the fall 2011 semester.

There is a proposed increase of five new students, relative to the initial and second cohorts, per academic year for years two and three of the program. This projected rise is both conservative and reasonable; for example, three non-TAMC clinical psychopharmacologists already have inquired about entering the program. It is expected that marketing of the program will draw a consistent and sustainable enrollment of new students each year.

Once the program established, there will be 20 students per academic year.

B. Annual SSH

Annual Year 1: Annual Student Semester Hours (SSH) are projected to be a total of 330 hours. The program will operate for fall, spring and summer sessions. See Appendix C for the two year course cycle, demonstrating the breakdown of credit hours per semester. A consistent increase in the Annual SSH each academic year as new cohorts enter the program is projected.

C. Instructional Costs (without fringe) - (C1) - In addition to utilizing current faculty to provide recorded lectures, creation and coordination of the MSCP program will require two additional FTE non-tenure faculty members to be added for each of the first three years of implementation of the program. One coordinator serves as the overall program manager, will teach pharmacoepidemiology and provides instruction using distance learning technology. The second coordinator is responsible for providing instruction to students for the clinical components of the program using distance learning technology. (C2) The MSCP program is planned to offer didactic courses utilizing online learning tools such as Laulima and Elluminate-Live! College of Pharmacy faculty will provide the prerecorded didactic lectures described above and will interact with students during the semester of instruction via site visits, synchronous Elluminate sessions, and email and other communication on Laulima.

Recording of lectures will be completed by the end of the Fall 2011 semester. The costs of recording, editing and archiving recorded lectures will be reduced accordingly in year two through six.
D. Other Personnel Costs – Creation of a program administrative support personnel position for processing fiscal needs of the program is required. Salary without fringe is planned to be $25,000 annually with an estimated 4 percent annual increase.

E. Unique Program Costs – AY 2011-2012 unique program costs total $11,000. (1) This total includes $1,000 annually for library expenses. Creation of the MSCP program will require the purchase of program -specific software for editing recorded lectures and course materials (e.g., Adobe Soundbooth, Quicktime Pro, Adobe Acrobat XPro). (2) Equipment and supplies costs total $5,000 is estimated to cover expenses related to computers and recording equipment. (3) $5000 are allocated for travel and meeting expenses. This includes travel to Oahu for faculty to meet with students for designated on-site seminar-like workshops.

This total is estimated to increase annually based on increasing equipment and travel expenses. The six year projection of this increase includes: AY 2012-2013 to $11,440; AY 2013-2014 to $11,898; AY 2014-2015 to $12,374; AY 2015-2016 to $12,868; and AY 2016-2017 to $13,383.

G. Tuition – Tuition rate per credit for the MSCP is planned to be $348 (AY 2011-2012). This tuition rate has been established based on an analysis of the tuition rates schedule that was released for the 2009-2012 academic years. Tuition increases also are calculated based on expected rate increases of 4% per year. Tuition per academic year, which includes fall, spring and summer, is calculated to be $11,484 per student for AY 2011-2012.

H. Other Revenue - Tripler Army Medical Center (TAMC), located in Honolulu, HI, is the headquarters of the Pacific Regional Medical Command of the armed forces administered by the United States Army in the State of Hawaii. TAMC is on a five-year cycle of fellowship awards to staff for professional development, with the current cycle beginning in Fall 2010. It plans to enroll up to 10 staff psychologists per year in the MSCP program.

Continued success with the MSCP program beyond the first three years will enable the College of Pharmacy to seek continued grant funds from TAMC in exchange for providing the education and training needed for clinical psychologists seeking prescriptive authority.

The grant funds are reduced over subsequent years of the program because the costs of sustaining the program are much less than those required for creating the program.

K. Instructional Cost per SSH – The net cost for the first year of the MSCP program is $736. In subsequent years, the net cost decreases because it is expected that increases in cost of services will be offset by increases in efficiency in delivering the services.

O. Comparable Cost per SSH - The initial cost of establishing the MSCP program in the first year ($1,365) is comparable to and well below the current cost for the graduate program in Natural Sciences ($1,178). As in section K (above), decreased costs per SSH are expected as the cost of the program is equalized over time.
D. Other Personnel Costs – Creation of a program administrative support personnel position for processing fiscal needs of the program is required. Salary without fringe is planned to be $25,000 annually with an estimated 4 percent annual increase.

E. Unique Program Costs – AY 2011-2012 unique program costs total $11,000. (1) This total includes $1,000 annually for library expenses. Creation of the MSCP program will require the purchase of program-specific software for editing recorded lectures and course materials (e.g., Adobe Soundbooth, Quicktime Pro, Adobe Acrobat XPro). (2) Equipment and supplies costs total $5,000 is estimated to cover expenses related to computers and recording equipment. (3) $5000 are allocated for travel and meeting expenses. This includes travel to Oahu for faculty to meet with students for designated on-site seminar-like workshops.

This total is estimated to increase annually based on increasing equipment and travel expenses. The six year projection of this increase includes: AY 2012-2013 to $11,440; AY 2013-2014 to $11,898; AY 2014-2015 to $12,374; AY 2015-2016 to $12,868; and AY 2016-2017 to $13,383.

G. Tuition – Tuition rate per credit for the MSCP is planned to be $348 (AY 2011-2012). This tuition rate has been established based on an analysis of the tuition rates schedule that was released for the 2009-2012 academic years. Tuition increases also are calculated based on expected rate increases of 4% per year. Tuition per academic year, which includes fall, spring and summer, is calculated to be $11,484 per student for AY 2011-2012.

H. Other Revenue - Tripler Army Medical Center (TAMC), located in Honolulu, HI, is the headquarters of the Pacific Regional Medical Command of the armed forces administered by the United States Army in the State of Hawaii. TAMC is on a five-year cycle of fellowship awards to staff for professional development, with the current cycle beginning in Fall 2010. It plans to enroll up to 10 staff psychologists per year in the MSCP program.

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Appendix B. Letters of Support from Potential Students
16 February 2011

Edward Fisher, PhD, RPh
Professor and Associate Dean
College of Pharmacy
University of Hawaii at Hilo
34 Rainbow Drive
Hilo, 96720 HI
USA

Dear Dr. Fisher,

As a first-year health psychology fellow at Tripler Army Medical Center, I submit this letter of support for the establishment of a Master of Science (MS) program in Clinical Psychopharmacology within the College of Pharmacy at the University of Hawaii at Hilo. As a caveat, my personal views do not necessarily represent the official views of Tripler Army Medical Center.

This clinical psychopharmacology program UH-Hilo would be the first one administered by an accredited college of pharmacy and offered to clinical psychologists. No similar program is available in Hawaii or in the Pacific region. I may be part of the first cohort that completes this program if it becomes officially established and recognized.

As a future practicing and licensed health psychologist, I see the many benefits of a clinical psychopharmacology program. The psychopharmacology training would enhance my understanding of how psychotropic medications work for treating mental and somatic disorders, improve my communication with physicians and psychiatrists, and allow me prescriptive authority in eligible states or within the military medical system. In short, the combination of my previous clinical psychology and public health training with the clinical psychopharmacology program would make me a very strong, integrative health psychologist.

Thank you for considering my letter of support. I look forward to hearing about the successful establishment of a clinical psychopharmacology program at UH-Hilo.

Respectfully yours,

Quyen B. Nguyen, Ph.D., MPH
Health Psychology Fellow
Dear Dr. Fisher,

In my capacity as Director of the Telebehavioral Health and Surge Support program, I’m writing this letter to express my support for the establishment of a Master of Science (MS) program in Clinical Psychopharmacology within the College of Pharmacy, at the University of Hawai‘i at Hilo. My organization is dedicated to service to our nation through high quality health care. We are committed to offering needed behavioral health services using technology to reach servicemembers and dependents outside of our treatment facilities. Our ability to provide services to service members are global and designed to reach individuals who are in geographical locations that have a shortage of behavioral health assets.

As there is no similar program available anywhere within the State of Hawai‘i or the Pacific generally, I see this, from both a personal and professional point of view, as a unique educational opportunity for fostering the growth and development of a course of study that is desperately needed in our region. Additionally, this will be the first such program offered to PhD Clinical Psychologists that is being administered solely by an accredited college of pharmacy.

I look forward to hearing about the successful establishment of this program.

Sincerely,

Eduardo Cua, Psy.D.
Edward Fisher, PhD, RPh
Professor and Associate Dean
College of Pharmacy
University of Hawaii at Hilo
34 Rainbow Drive
Hilo, HI 96720
USA

February 16, 2011

Dear Dr. Fisher,

In my capacity as a post-doctoral fellow in clinical psychology I’m writing this letter to express my support for the establishment of a Master of Science (MS) program in Clinical Psychopharmacology within the College of Pharmacy, at the University of Hawai‘i at Hilo. I plan to return to Hilo upon completion of my post-doctoral fellowship. The need for psychiatric services on the Big Island is high, and the availability of psychiatrists extremely limited, particularly since the cut-backs at the Department of Health have left many previously served by AMHD without adequate care. I would be interested in attending the proposed program once I return to Hilo after I obtain licensure as a clinical psychologist in the State of Hawai‘i. Whether or not prescriptive authority for psychologists is ever granted in the State of Hawai‘i, I believe that a thorough knowledge of psychopharmacology is necessary for providers of mental health care so that improved communication with prescribers is facilitated. I have also had the opportunity to work with Dr. Young and Dr. Myhre at Waianae Coast Comprehensive Community Health Center during my internship, and have seen first-hand the positive effects that increasing psychiatric service availability can have on the general population in a rural community. I would like to see those opportunities expand to include our underserved populations on the Big Island.

As there is no similar program available anywhere within the State of Hawai‘i or the Pacific generally, I see this, from both a personal and professional point of view, as a unique educational opportunity for fostering the growth and development of a course of study that is desperately needed in our region. Additionally, this will be the first such program offered to PhD Clinical Psychologists that is being administered solely by an accredited college of pharmacy.

I look forward hearing about the successful establishment of this program.

Yours Sincerely,

[Signature]
Stephanie Dodge, PhD
Psychology Fellow
Tripler Army Medical Center
Appendix #: Letters of Support from Community and Legislative Leaders
February 17, 2011

Edward Fisher, Ph.D., R.Ph.
Professor and Associate Dean
College of Pharmacy
University of Hawaii at Hilo
34 Rainbow Drive
Hilo, Hawaii 96720

Dear Dr. Fisher:

I was pleased to learn of your efforts, and those of your colleagues at the College of Pharmacy, in order to develop a Masters of Science program in Clinical Psychopharmacology. When I envisioned the establishment of your College, I hoped that it would be possible for the leadership to reach out throughout the Pacific Basin Region, rural Hawaii and Alaska, in order to address the many pressing and truly unique needs.

To date, I have been very pleased with these efforts, and compliment you on your collective vision.

Aloha and Mahalo,

DANIEL K. INOUYE
United States Senator

DKI:phdw
March 8, 2011

Edward Fisher, PhD, RPh
Professor and Associate Dean
College of Pharmacy
University of Hawaii at Hilo
34 Rainbow Dr.
Hilo, HI 96720

Aloha Dr. Fisher,

Thank you for giving me the opportunity to express my support for the establishment of a Master of Science (MS) program in Clinical Psychopharmacology within the College of Pharmacy, at the University of Hawai‘i at Hilo. The Office of the Mayor provides direction, leadership and operational supervision for all Executive Branch departments and agencies and works in conjunction with the County Council to develop and implement policies described under Articles IV and V of the County Charter.

As there is no similar program available anywhere within the State of Hawai‘i or the Pacific, I believe this will be a unique educational opportunity for fostering the growth and development of a course of study that is desperately needed in our region. This will also be the first such program offered to PhD Clinical Psychologists administered solely by an accredited college of pharmacy.

Programs of this kind bring new educational and employment opportunities for the citizens of Hawai‘i County. Improvements in the psychopharmacology training of professionals who treat patients with mental health disorders will benefit our entire community, reducing the pressure of our already overstretched healthcare community.

I look forward to hearing about the successful establishment of this program.

Mahalo,

Billy Kenoi
Mayor
Edward Fisher, PhD, RPh  
Professor and Associate Dean  
College of Pharmacy  
University of Hawai‘i at Hilo  
34 Rainbow Drive  
Hilo, 96720 Hawaii  

Dear Dr. Fisher,

I’m writing this letter to express my support for the establishment of a Master of Science (MS) program in Clinical Psychopharmacology within the College of Pharmacy, at the University of Hawai‘i at Hilo. I believe that this program would have a great benefit to the State of Hawaii and particularly extend much needed services into underserved and rural areas.

As there is no similar program available anywhere within the State of Hawai‘i or the Pacific, and the establishment of this degree will provide a unique educational opportunity for fostering the growth and development of a course of study that is desperately needed in our state and throughout the pacific region. Additionally, this will be the first such program offered to PhD Clinical Psychologists that is being administered solely by an accredited college of pharmacy.

The creation of the MS in Clinical Psychopharmacology is a natural progression for the College of Pharmacy at the University of Hawai‘i at Hilo that it will provide for a much needed discipline and will serve as a logical extension of knowledge in the pursuit of providing ever improving health care.

I look forward to hearing about the successful establishment of this program.

Sincerely,

Mark M. Nakashima  
State Representative

Mark M. Nakashima  
First District  
repnakashima@capitol.hawaii.gov

Twenty-Sixth Legislature  
415 South Beretania Street Room 406  
Honolulu, Hawaii 96813

Vice Chair  
Committee on Higher Education  
Member  
Committee on Education  
Committee on Energy & Environmental Protection  
Committee on Housing  
Committee on Water, Land, & Ocean Resources

Telephone (808)586-6680  
Facsimile (808)586-8884
Dear Dr. Fisher,

In my capacity as the Director of Training of I Ola Lahui Rural Hawai'i Behavioral Health Program, I'm writing this letter to express my support for the establishment of a Master of Science (MS) program in Clinical Psychopharmacology within the College of Pharmacy, at the University of Hawai'i at Hilo. My organization is dedicated to providing culturally-mirrored evidence-based behavioral health care that is responsive to the needs of medically underserved and predominantly Native Hawaiian rural communities. Since 2007, we have been training pre-doctoral and post-doctoral psychology trainees to work in Hawai'i's rural communities.

As there is no similar program available anywhere within the State of Hawai'i or the Pacific generally, I see this, from both a personal and professional point of view, as a unique educational opportunity for fostering the growth and development of a course of study that is desperately needed in our region. Additionally, this will be the first such program offered to doctoral level Clinical Psychologists that is being administered solely by an accredited college of pharmacy.

As Clinical Psychologists working in the Community Health Centers and Native Hawaiian Health Care Systems across the state, our trainees and faculty are actively collaborating with Primary Care Physicians regarding psychotropic medications. This model has been in effect since 2001 and fits the patient and community needs well. Our role as psychopharmacology consultants has increased significantly with the recent cuts to the Department of Health's Adult Mental Health Division. This program would allow for formal university-based training for Primary Care Psychologists and allow continued access to thousands of the states most needy residents.

I look forward hearing about the successful establishment of this program.

Yours Sincerely,

Robin E. S. Miyamoto, Psy.D.
Director of Training
I Ola Lahui, Inc.
Dear Dr. Fisher,

As a faculty member at the University of Hawai‘i, School of Nursing (SON) and a certified advanced practice nurse in both Acute Care and Gerontological Nursing, I wish to express my support for the establishment of a Master of Science (MS) program in Clinical Psychopharmacology within the College of Pharmacy, at the University of Hawai‘i at Hilo. The profession of nursing is dedicated to safe and timely care of patients both in acute care and outpatient settings and the SON supports academic endeavors that improve patient care. As nurses, we are in constant communication with pharmacists as we work hand in hand in providing safe delivery and evaluation of medications.

I am not aware of any similar clinical psychopharmacology programs here in Hawai‘i. This being said, I believe establishing this program provides the School of Pharmacy and the medical community at large an educational opportunity that is unique and will fill a void in educational study for this region and will provide PhD Clinical Psychologists a route to enhance their understanding of psychopharmacologically based drugs.

I further support this program of study as it will improve understanding of drugs used to treat mental and somatic disorders and enhance the safe care of patients receiving these medications. In addition I am hopeful that nurses and pharmacists trained in this area will establish effective communicate networks aimed at providing patients with a comprehensive regimen of care.

This is a noteworthy program that is timely and important. I endorse the establishment of this program.

Yours Sincerely,

Alice Davis, PhD, APRN
Assistant Professor

200 W. Kawili St. Hilo, HI 96720-4091 • Phone: (808) 974-7760 • Fax: (808) 974-7665 • www.uhh.hawaii.edu/nursing
An Equal Opportunity/Affirmative Action Institution
March 3, 2011

Edward Fisher, PhD, RPh
Professor and Associate Dean
College of Pharmacy
University of Hawaii at Hilo
34 Rainbow Drive
Hilo, 96720 HI
USA

Dear Dr. Fisher,

In my capacity as Director and Professor of Nursing at the University of Hawai‘i at Hilo, I am writing this letter to express my strong support for the establishment of a Master of Science (MS) program in Clinical Psychopharmacology within the College of Pharmacy at the University of Hawai‘i at Hilo. The UH Hilo School of Nursing is committed to fostering high quality health professionals and the vision of interdisciplinary collaboration.

As there are no similar programs available anywhere within the State of Hawai‘i or the Pacific generally, I see this, from both a personal and professional point of view, as a unique educational opportunity for fostering the growth and development of a course of study that is desperately needed in our region. Additionally, this will be the first such program offered to PhD Clinical Psychologists that is being administered solely by an accredited college of pharmacy.

I feel that this program is especially critical as there is a great need for professionals to treat patients with mental health disorders. There is a current shortage of professionals here on the Big Island, and other regions as well. This program will be a critical piece in addressing the mental health care needs of our population, and I am so excited about the positive impact this will be for our communities. Advanced Practice Nurses with prescriptive authority have improved access to high quality healthcare. The MS in Clinical Psychopharmacology will improve availability of professionals to treat patients with mental disorders and help to reduce the impact on our already taxed healthcare professional community.

I look forward hearing about the successful establishment of this program.

Sincerely,

Dr. Katharyn Daub
Director
University of Hawai‘i at Hilo
School of Nursing
Edward Fisher, PhD, RPh  
Professor and Associate Dean  
College of Pharmacy  
University of Hawaii at Hilo  
34 Rainbow Drive  
Hilo, HI 96720

Dear Dr. Fisher,

In my capacity as both a clinician in the rural areas of Puna and Ka’u as well as the current President of the Hawaii Psychological Association I’m writing this letter to express my support for the establishment of a Master of Science (MS) program in Clinical Psychopharmacology within the College of Pharmacy, at the University of Hawai’i at Hilo. Both as my role as a clinician serving the rural areas under Kapiolani Medical Center as well as in my role as President of HPA we are commitment to identifying underserved populations and meeting the needs of our communities.

As there is no similar program available anywhere within the State of Hawai’i or the Pacific generally, I see this, from both a personal and professional point of view, as a unique educational opportunity for fostering the growth and development of a course of study that is desperately needed in our region. Additionally, this will be the first such program offered to PhD Clinical Psychologists that is being administered solely by an accredited college of pharmacy. I see this program as having the ability to:

- Enhance the understanding of drugs used to treat any mental and somatic disorders
- Enable clinical psychologists to better communicate with primary care physicians and psychiatrists about pharmacotherapy
- Allow prescriptive authority if employed in states that allow such practices or employed by the military
- Improve availability of professionals to treat patients with mental health disorders
- Reduce the pressure on our already taxed healthcare professional community

I look forward hearing about the successful establishment of this program in which I plan to apply to once established.

Respectfully submitted,

Barbara Higa Rogers, LCSW, MPH, PsyD.  
Licensed Psychologist  
Clinical Manager-KCPC Big Island  
President Hawaii Psychological Association
Edward Fisher, PhD, RPh  
Professor and Associate Dean  
College of Pharmacy  
University of Hawaii at Hilo  
34 Rainbow Drive  
Hilo, 96720 HI  
USA  

Dear Dr. Fisher,  

In my capacity as the Behavioral Health Director and Licensed Clinical Psychologist at Na Pu’uwai Native Hawaiian Healthcare System Clinic on Moloka’i and as a Clinical Supervisor for Clinical Psychology Postdoctoral Fellows on the island of Lana‘i, I’m writing this letter to express my support for the establishment of a Master of Science (MS) program in Clinical Psychopharmacology within the College of Pharmacy, at the University of Hawai‘i at Hilo. Na Pu’uwai is dedicated to improving the health and well-being of residents on Moloka‘i and Lana‘i using effective, culturally-sensitive approaches.  

As there is no similar program available anywhere within the State of Hawai‘i or the Pacific generally, I see this, from both a personal and professional point of view, as a unique educational opportunity for fostering the growth and development of a course of study that is desperately needed in our region. Additionally, this will be the first such program offered to Ph.D. Clinical Psychologists that is being administered solely by an accredited college of pharmacy.  

This program has the potential to improve services on both Lana‘i and Moloka‘i as it will:  

- Enhance the understanding of drugs used to treat any mental and somatic disorders  
- Enable clinical psychologists to better communicate with primary care physicians and psychiatrists about pharmacotherapy  
- Allow prescriptive authority if employed in states that allow such practices or employed by the military  
- Improve availability of professionals to treat patients with mental health disorders  
- Reduce the pressure on our already taxed healthcare professional community  

I look forward hearing about the successful establishment of this program.  

Yours Sincerely,  

Allison Seales, Ph.D.  
Behavioral Health Director  
Licensed Clinical Psychologist
March 1, 2011

Edward Fisher, PhD, RPh
Professor and Associate Dean
College of Pharmacy
University of Hawaii at Hilo
34 Rainbow Drive
Hilo, 96720 HI
USA

Dear Dr. Fisher,

In my capacity as a Licensed Clinical Psychologist who has been working in rural, medically underserved communities for the past 10 years, I'm writing this letter to express my support for the establishment of a Master of Science (MS) program in Clinical Psychopharmacology within the College of Pharmacy, at the University of Hawaii at Hilo. I have been dedicated to improving access to behavioral health care services for rural populations on multiple levels to include direct service delivery, training, research and advocacy. I am also the current Past-President of the Hawaii Psychological Association (HPA) and have served as a co-chair of the HPA RxP committee to advance Hawaii's legislative advocacy for prescriptive authority for psychologists.

As there is no similar program available anywhere within the State of Hawaii or the Pacific generally, I see this, from both a personal and professional point of view, as a unique educational opportunity for fostering the growth and development of a course of study that is desperately needed in our region. Additionally, this will be the first such program offered to PhD Clinical Psychologists that is being administered solely by an accredited college of pharmacy. I would be extremely interested in enrolling in this program as I have witnessed firsthand the needless suffering that occurs because of the lack of prescribing health care providers in rural areas, and I am committed to becoming a part of the solution to this problem.

I look forward to hearing about the successful establishment of this program.

Yours Sincerely,

Jill M. Oliveira Gray, PH.D.
Licensed Clinical Psychologist
March 1, 2011

Edward Fisher, PhD, RPh
Professor and Associate Dean
College of Pharmacy
University of Hawai‘i at Hilo
34 Rainbow Drive
Hilo, 96720 HI, U.S.A.

Dear Dr. Fisher,

On behalf of Kokua Kalihi Valley Health Center, I’m writing this letter to express my support for the establishment of a Master of Science (MS) program in Clinical Psychopharmacology within the College of Pharmacy, at the University of Hawai‘i at Hilo. My organization is dedicated to healing and reconciliation in the Kalihi Valley Community where we have served since 1972.

As you know, Kokua Kalihi Valley has recently entered into a long term collaborative relationship as a training facility partner with the College of Pharmacy. We see this program as an exciting adjunct to that relationship, with the potential to expand the our capabilities as a provider of comprehensive mental health services to the Kalihi Community. Since there is no similar program available anywhere within the State of Hawai‘i or the Pacific basin, this is a unique educational opportunity for fostering the growth and development of a course of study that is desperately needed in our region.

Please keep us in the loop about this program as it moves forward. We look forward to a long successful partnership with you!

Yours Sincerely,

David Derauf, MD MPH
Executive Director

Providing Medical & Dental Services, Health Education, Maternal & Child Health and Social Services to Kalihi Valley residents since 1972. Neighbors being neighborly to neighbors.
March 1, 2011

Edward Fisher, PhD, RPh
Professor and Associate Dean
College of Pharmacy
University of Hawai'i at Hilo
34 Rainbow Drive
Hilo, Hawai'i 96720

Dear Dr. Fisher,

The Hawai'i Primary Care Association (HPCA) supports the establishment of the Master of Science program in Clinical Psychopharmacology within the College of Pharmacy at the University of Hawai'i at Hilo. HPCA is the statewide association of community health centers and has as our mission the assurance of access to high quality primary care to people across the state, particularly residents of underserved areas. To that end, one of our concerns is the development of workforce with excellent credentials for their work, cultural competence, and compassion to staff community health centers.

The MS in Clinical Psychopharmacology speaks to our workforce interests. This program will be unique in the State of Hawai'i and the Pacific and so will provide a unique educational opportunity for fostering the growth and development of a course of study that is desperately needed in our region. Additionally, this will be the first such program offered to PhD Clinical Psychologists that is being administered solely by an accredited college of pharmacy. The program will:

- Enhance the understanding of drugs used to treat mental and somatic disorders;
- Enable clinical psychologists to better communicate with primary care physicians and psychiatrists about pharmacotherapy;
- Prepare psychologists for prescriptive authority if employed in states that allow such practices or employed by the military;
- Improve availability of professionals to treat patients with mental health disorders; and
- Reduce the pressure on our already taxed healthcare professional community.

I look forward hearing about the successful establishment of this program and stand ready to offer our continued support.

Sincerely,

Elizabeth Giesting
Chief Executive Officer
Dear Dr. Fisher,

In my capacity as Postdoctoral Fellowship Director at Department of Psychology, Tripler Army Medical Center, I’m writing this letter to express my support for the establishment of a Master of Science (MS) program in Clinical Psychopharmacology within the College of Pharmacy, at the University of Hawai’i at Hilo. One of my organization goals is to train psychologists in advanced psychopharmacology training.

As there is no similar program available anywhere within the State of Hawai’i or the Pacific generally, I see this, from both a personal and professional point of view, as a unique educational opportunity for fostering the growth and development of a course of study that is desperately needed in our region. Additionally, this will be the first such program offered to PhD Clinical Psychologists that is being administered solely by an accredited college of pharmacy.

The benefits that the Master of Science of Psychopharmacology can have on our training programs include:

- Enhance the understanding of drugs used to treat any mental and somatic disorders
- Enable clinical psychologists to better communicate with primary care physicians and psychiatrists about pharmacotherapy
- Allow clinical psychologist working in the Department of Defense to provide psychopharmacology treatment to service members and their families.
- Improve availability of professionals to treat patients with mental health disorders
- Reduce the pressure on our already taxed healthcare professional community

I look forward hearing about the successful establishment of this program.
Yours Sincerely,

[Signature]

Rafael A. Salas, Psy.D.
Postdoctoral Psychology Fellowship Training.
Edward Fisher, PhD, RPh  
Professor and Associate Dean  
College of Pharmacy  
University of Hawaii  
34 Rainbow Drive  
Hilo, HI 96720

March 28, 2011

RE: Master of Science (MS) program in Clinical Psychopharmacology

Dear Dr. Fisher,

In my capacity as Professor of Psychology and Chair of Social Sciences Division I am writing this letter to express my support for the establishment of a Master of Science (MS) program in Clinical Psychopharmacology within the College of Pharmacy, at the University of Hawaii, Hilo.

As you know, I am a clinical psychologist by training and my research focuses on clinical trials, epidemiology, and mental health service delivery in a variety of clinical settings, including outreach to rural populations in need of mental health services. The type of program you are planning to offer may prove to be especially effective in surmounting the unusual mental healthcare access challenges faced by mentally ill people living in the neighbor islands of Hawaii.

As there is no similar program available anywhere within the State of Hawaii or the Pacific generally, I see this, as a unique educational opportunity for fostering the growth and development of a course of study that may prove quite beneficial to our region.

Best wishes for your efforts! I look forward to hearing about the successful establishment of this program.

Sincerely,

B. Christopher Frueh, Ph.D.  
Professor of Psychology and Chair of Social Sciences Division
Appendix D.

Comparison of Curricula of Clinical Psychopharmacology Programs
### Appendix C: Comparison of Curricula of Psychopharmacology Programs

<table>
<thead>
<tr>
<th>Semester &amp; Year</th>
<th>Clinical Psycho-pharmacology University of Hawai’i at Hilo</th>
<th>Nova Southeastern University</th>
<th>Argosy</th>
<th>Fairleigh Dickinson</th>
<th>Alliant</th>
<th>SIAP</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>The Biochemical Basis of Therapeutics II – Metabolism (3) PHPS 451</td>
<td>Drug Information Resources (0.5)</td>
<td>Neuroanatomy (2)</td>
<td>Biological Foundations II (3)</td>
<td>Neurosciences (84 hrs)</td>
<td>Pharmacology</td>
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<td></td>
<td>Human Physiology (3) PHPS 606</td>
<td>Human Anatomy &amp; Physiology (1.5) Neurophysiology (1.5) Neurochemistry (1.5) Neuroanatomy/Neuropathology (1.5)</td>
<td>Pathophysiology (4)</td>
<td>Neuroscience (3)</td>
<td>Clinical Medicine/Pathophysiology (60 hrs)</td>
<td>Pathophysiology and Evidence-based Medicine</td>
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<tr>
<td>P1 (spring)</td>
<td>Integrated Pharmacotherapy I (7) PHPS 601</td>
<td>General Pharmacology I (2) General Pharmacology II (2) Clinical Psychopharmacology I (2) Clinical Psychopharmacology II (2)</td>
<td>Introduction to Physical Assessment and Laboratory Exams (3)</td>
<td>Neuropharmacology (3)</td>
<td>Physical Assessment (36 hrs)</td>
<td>Clinical Psychopharmacology</td>
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<tr>
<td></td>
<td>Integrated Pharmacotherapy II (7) PHPS 602</td>
<td>Developmental Psychopharmacology (1.5) Chemical Dependency &amp; Pain Management (1.5) Pathophysiology I (2) Pathophysiology II (2)</td>
<td>Pharmacology (2)</td>
<td>Clinical Pharmacology (3)</td>
<td>Pharmacology and Clinical Pharmacology (60 hrs)</td>
<td>Special Topics</td>
</tr>
<tr>
<td>P2 (fall)</td>
<td>Integrated Pharmacotherapy III (4) PHPS 603</td>
<td>Introduction Physical Assessment &amp; Lab Exams (3) Professional, Ethical &amp; Legal Issues (0.5) Psychotherapy/Pharmacotherapy Interactions (1) Pharmacoeconomics (1)</td>
<td>Neurophysiology (2)</td>
<td>Professional Issues and Practice Mgmt. (3)</td>
<td>Psychopharmacology (48 hrs)</td>
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<tr>
<td>Semester &amp; Year</td>
<td>Clinical Psychopharmacology University of Hawai‘i at Hilo</td>
<td>Nova Southeastern University</td>
<td>Argosy</td>
<td>Fairleigh Dickinson</td>
<td>Alliant</td>
<td>SIAP</td>
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<tr>
<td>P2 (spring)</td>
<td>Advanced Psychopharmacology I (3) PHPS 604</td>
<td></td>
<td>Pharmacotherapeutics (2)</td>
<td>Treatment Issues in Psychopharmacology: A Case Study Approach (12)</td>
<td>Introduction to Molecular Nutrition &amp; Its Place in Psychopharmacology (12 Hours)</td>
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<tr>
<td></td>
<td>Advanced Psychopharmacology II (3) PHPS 605</td>
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<tr>
<td>P2 (fall, spring, summer)</td>
<td>Psychopharmacology Practicum (2)</td>
<td>Practicum I: Psychopharmacology (2.5)</td>
<td></td>
<td>Clinical Pharmacology (4) Psychopharmacology (3) Special Issues in Pharmacology (2) Neurochemistry (2) Legal, Ethical, and Professional Issues (1) Psychopharmacology Practicum (2)</td>
<td></td>
<td>Special Populations in Psychopharmacology (60 total hrs) Chemical Dependence (12 hrs) Pharmacotherapeutics (36 total hrs) Case Seminar (12 hrs) Review Course for the Psychopharmacology Examination for Psychologists</td>
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