MEMORANDUM

TO: Howard Karr
Chairperson, Board of Regents

VIA: M.R.C. Greenwood
President

FROM: Donald O. Straney
Chancellor, University of Hawai'i at Hilo

SUBJECT: Authorization to Establish as a Provisional Program the Ph.D. in Pharmaceutical Sciences at the University of Hawai'i at Hilo

SPECIFIC ACTION REQUESTED:

It is requested that the Board of Regents approve establishment of a provisional new degree program, the Ph.D. in Pharmaceutical Sciences, to be administered by the College of Pharmacy at the University of Hawai'i at Hilo (UH Hilo).

ADDITIONAL COST:

No additional cost. As described in the program proposal, there are absolutely no requests for any additional resources to implement this program. When the College of Pharmacy was started in 2007, implementation and phasing in of the Ph.D. program was taken into account. The existing faculty members who will participate in the program are listed in the document. In addition, three additional Ph.D.-level faculty members are currently being recruited in the Department of Pharmaceutical Sciences (over 75 applications have been received), and it is likely that at least three of the faculty members currently being recruited in the Department of Pharmacy Practice will either have a Ph.D. or a PharmD/Ph.D. The number of faculty listed in the revenue template provides an indication of the number involved in the didactic portion of the curriculum. Faculty members who have been involved in planning and preparation of course syllabi are now ready to deliver. Many additional faculty members will be involved in research training, but these individuals are already conducting active research programs so the new graduate students will simply be incorporated. All necessary equipment is in place and the new graduate students will have access. Further, all College of Pharmacy faculty members involved in research have postdoctoral associates working in their laboratories. In addition to faculty members, these postdoctoral associates will be supportive in providing practical training for
graduate students. In sum, due to cogent planning and success in meeting all benchmarks, the College of Pharmacy has full confidence in being able to launch a high quality graduate program without the necessity of requesting any additional internal resources.

**RECOMMENDED EFFECTIVE DATE:**

Fall 2011

**PURPOSE:**

At the present time, the College of Pharmacy provides training and experience leading to the Doctor of Pharmacy (PharmD) degree. The PharmD provides many career opportunities, largely centered on the profession of pharmacy. The PharmD program has been very successful; the first student pharmacists will graduate in May 2011.

In addition to offering curricula leading to the PharmD, all top-ranked and academically sound schools and colleges of pharmacy offer Ph.D. level programs. There is evidence these colleges have a distinct competitive advantage through research excellence, and this advantage is likely to enhance program stability and sustainability relative to programs that do not have this research capacity. The Ph.D. is viewed as the highest academic degree, and the Ph.D. in Pharmaceutical Sciences will provide our residents with a cadre of career opportunities never before available.

The degree will prepare graduates to be scientists with extensive skills in research design, techniques and methodologies. Graduates can serve the academy as faculty members. Alternatively, they will be well qualified to meet demand and make advances in a broad range of additional settings, including industrial, governmental, clinical, retail, marketing, and consultancy.

In addition to providing our residents an opportunity to obtain a Ph.D. in the Pharmaceutical Sciences without having to leave the State, this program will spawn a culture of pharmaceutical-based research here in Hawai‘i that is entirely consistent with the vision of the UH system. As stated by President Greenwood "As the sole public institution of higher education, the University of Hawai‘i plays a key role in building Hawai‘i’s educational and economic future... and this will be achieved by... Increasing the number of college graduates by 25 percent by 2015, contributing through research, innovation and technology transfer, and ensuring our campuses and facilities reflect our mission as a 21st-century university built on excellence."
At the present time, College of Pharmacy faculty members are actively engaged in high quality research programs. By adding the next tier of education and training to College, the Ph.D. in Pharmaceutical Sciences, we will be poised to help deliver on significant parts of the System goals alluded to above. The program will significantly elevate the culture of research, development and technology transfer in the pharmaceutical sciences. As the program grows and matures, further opportunities for extramural funding, collaboration, and growth will follow. Faculty success will be further assured.

Hawaii, and the UH System in particular, is ideally positioned to become part of the anticipated future growth in the western use of Indian and Chinese Traditional Medicines, as well as the growth in the Asian pharmaceutical market place. Work in the area of new drug discovery and development will be incorporated into the Ph.D. program. The program will contribute to the development of young industries already taking root within the State.

The importance of implementing this Ph.D. program is widely recognized by community leaders, local entrepreneurs, academics within the UH system, and perspective students. No such program currently exists within the UH System, the State of Hawaii, or the Pacific Region.

In sum, comprehensive planning is complete, no obstacles are apparent, all resources are available, and there is an obvious need for this new Ph.D. program. We seek Board approval to initiate the program of study.

BACKGROUND INFORMATION:

Pursuant to Board of Regents Policy 5-1, the Board of Regents has the authority to approve new degree programs upon recommendation by the President.

The University of Hawaii at Hilo College of Pharmacy currently offers a curriculum leading to the Doctor of Pharmacy (PharmD). The first class of student pharmacists will graduate in May 2011. The PharmD is required to gain licensure for professional practice as a pharmacist. The College is now perfectly positioned to offer a Ph.D. in the Pharmaceutical Sciences. This will be the first program of this type to be offered by the University of Hawaii, and the only program of this type offered in the State of Hawaii and in the Pacific region generally.

Implementation of the Ph.D. program is essential for the continued growth and development of the College. Since the program was premeditated since the time the College was founded, no additional funds or resources are required or being requested. Well-qualified mentors are in place and poised to accept graduate students. Extramural funding has been obtained from the National Institutes of Health. State-of-the-art
equipment is available for the conduct of world-class research. At the same time, the program nicely interfaces with related research programs that are in place at our flagship campus, and it is fully consonant with work force and technology development plans that have been spearheaded by the UH System.

Realization of the Ph.D. program forms an integral part of the College of Pharmacy overall mission. Active planning for the Ph.D. curriculum has been ongoing for about two years. Based on the present stage of development, the College of Pharmacy has the expertise, critical mass, and proven organizational skills for effective Ph.D. program implementation. We have established:

- The program has adequate resources available for success.
- There are no cross-program or departmental implications.
- The program reflects intellectual rigor and teaching excellence.
- Program coherence has been addressed.
- There is no impact on course and seat capacity.
- The program is consistent with the University Mission and Strategic Plan.
- The program will enhance the research output of faculty advising graduate students and so increase their ability to successful secure extramural funding.
- The program will result in the development of new industry and business opportunities in the State.
- The program is unique within the UH System.
- The program leverages unique internal competence and a unique environmental setting.
- Within the State and throughout the Pacific, only the College of Pharmacy at UHH has the expertise and resources needed to launch this program.

This program will provide graduate training in the Pharmaceutical Sciences for students with a PharmD, MS or BS degree, and those currently working in the field. Studies will culminate with the award of a Ph.D. in Pharmaceutical Sciences, with an emphasis on natural products discovery and development and their importance in pharmacy and healthcare in general. The program will utilize the extraordinary intellectual, biological, physical and cultural diversity on the Island of Hawai'i, and within both the State and Asia-Pacific Region, as a focus of investigation and study. The program will prepare students for senior leadership positions in the pharmaceutical sciences in academia, research, education, government, industry and related fields. It will prepare leaders who can identify, research, and problem solve issues related to the pharmaceutical sciences. The program will foster the development of students as critical thinkers, team players, self-directed interdisciplinary scholars and communicators. The program will provide enhanced research opportunities for PharmD and post-doctoral fellows. As the program develops, the University of Hawai'i will increasingly be recognized as the center of excellence in pharmaceutical research, discovery, development and education in the Pacific Basin.
Housed in the College of Pharmacy, the Ph.D. in Pharmaceutical Sciences complements the PharmD degree. A graduate program exposes students to career prospects beyond the practice of pharmacy and creates new opportunities to enter into the pharmaceutical industry and academia. An active graduate program will give the professional student the chance to consider career options including drug discovery, pharmaceutics, medicinal chemistry, pharmacology, or clinical research before committing to a particular career path.

Additionally, the program will greatly enhance the intellectual depth and breadth of the College and Campus community through seminar programs, discussion groups and campus lectures. The diverse scientific perspectives brought to the College, not just by the faculty but also by graduate students and postdoctoral fellows from a variety of backgrounds, will all contribute to the advancement of scholarship, which in turn will lead to an increase in the exposure of our programs to the scientific and industrial community and potential sources of funding.

To conclude, establishment of the Ph.D. in the Pharmaceutical Sciences within the College of Pharmacy at the University of Hawai‘i at Hilo, will provide unique opportunities for residents of the State of Hawai‘i. The program will ensure an adequate supply of scientists for future jobs, make a unique contribution to the multi-billion dollar healthcare industry within the State, and promote new research, development and technology transfer in an area that is critically lacking within the State. The program will serve as an important legacy for generations to come.

**ACTION RECOMMENDED:**

It is recommend that the Board of Regents approve establishment of a provisional new degree, the Ph.D. in Pharmaceutical Sciences, to be administered by the College of Pharmacy at the University of Hawai‘i at Hilo, effective Fall 2011.

Attachment - Ph.D. in Pharmaceutical Sciences program proposal

N.B. A hard copy and an electronic copy of the full proposal (over 800 pages) will be available at the BOR office.

c: Keith Amemiya, Interim Executive Administrator and Secretary of the Board of Regents