Submitted by: Margaret E. Winters, Provost and Senior Vice President for Academic Affairs

ESTABLISHMENT OF A DOCTORATE IN MEDICAL PHYSICS

Recommendation

It is recommended that the Board of Governors approve the establishment of a Doctorate in Medical Physics program in the Department of Oncology in the School of Medicine, effective fall 2016.

Background

The professional Doctorate Program in Medical Physics (DMP) provides educational and clinical training to prepare scientists to practice in the profession of medical physics, which provides clinical services, research, and education in radiation oncology, diagnostic imaging and nuclear medicine. There is a clear need for additional clinical training programs in medical physics in North America. Recent estimates of demand suggest a need for about 150-250 new medical physicists annually, and there are currently only approximately 100 accredited residency positions in North America providing clinical training. The DMP program incorporates this clinical residency training directly into the degree program. Establishing a DMP program at WSU involves combining didactic coursework and clinical training components which are already well established and accredited by the Commission on the Accreditation of Medical Physics Education Programs (CAMPEP). Implementation of this program will keep Wayne State University at the forefront of medical physics education, provide a competitive advantage to our students, and provide necessary clinical training to fill a need in the field of medicine.

Program Description

The overall objective of the proposed Doctorate in Medical Physics program is to provide the necessary education and training for clinical practice in radiation oncology physics. The clinical training component is the same as that performed by radiation oncology physics residents in our accredited two year clinical physics residency program, and the content of this program is guided by the American Association of Physicists in Medicine. This clinical training program has been in operation for nearly ten years. The didactic coursework will include the core elements of the MS and PhD programs in Medical Physics, programs that have been accredited for over 20 years. As such, we are combining two established and successful components into one degree program, providing an opportunity for graduate students to complete both their graduate education and clinical training in the most efficient timescale possible at the same institution.

Admission Requirements

Applicants must meet requirements for admission to the Graduate School and have an undergraduate degree in physics or a related scientific discipline with one year of undergraduate calculus-based physics and at least three upper level physics courses. A minimum GPA of 3.0 will be required for admission. Applicants must take the general GRE and will participate in a competitive interview process by the program faculty.

Curriculum Requirements

A total of 90 credits will be required, including 60 didactic (coursework) credits and 30 clinical rotation credits. A research project will comprise 14 of the 60 course credits. Of the 46 remaining course credits, 32 are core courses required for the MS and PhD degrees in Medical Physics. The remaining 14 credits will be related elective coursework approved by the program director. The DMP will not require a traditional dissertation, but instead will combine didactic, research, and clinical training in the preparation of the graduate for a clinical career in the profession of medical physics.

Part-time enrollment may be permitted during the didactic component of the program; however, full-time enrollment is required during the clinical rotation component. It is anticipated that most students will complete the program in four years, but additional time may be required if a student requires remediation for didactic or clinical training deficiencies.

Graduation Requirements

All coursework must be completed in accordance with the Graduate School and the regulations governing graduate scholarship and degrees.

Program Administration

The program will be overseen by the director of graduate studies in medical physics who also oversees the Master of Science, Doctor of Philosophy, and Graduate Certificate programs. A program coordinator will provide administrative support. In addition, the DMP program will share the committee structure with existing graduate programs.

Budget and Resource Requirements

No additional expenditures are anticipated for supplies or physical facilities. The anticipated administrative duties for this program will be similar to that currently required for the MS and PhD programs; thus, there will be a significant increase in administrative duties. If the program is approved, a request will be made to the Dean for additional administrative support. Clinical training will take place within the Karmanos Cancer Center, and this program has the support of its President and CEO.

Accreditation

All three current programs (MS, PhD, and GC) are accredited by the Commission on the Accreditation of Medical Physics Education Programs (CAMPEP), as is our radiation oncology physics residency training program. We anticipate applying for accreditation immediately upon approval of the program by the university. Since the DMP is largely a combination of our accredited MS program and accredited radiation oncology physics residency program, we anticipate that our application for accreditation will be achieved relatively quickly.

Approvals

The proposal has been approved by the faculty of the Medical Physics Graduate Programs, the Chair of the Department of Oncology, both the Dean and the Associate Dean (for Biomedical Graduate Programs) of the Medical School, the Graduate Council, the Dean of the Graduate School, and the Office of the Provost.