

## Modification to:

### “Information and Policy Guide for Physics Graduate Students”

#### 3. DOCTORAL CANDIDACY REQUIREMENTS

The Physics Graduate Faculty have determined the following as the normal requirements for graduate students to be admitted to PhD Candidacy status:

- a. Pass the Candidacy Examination [Sec. 3-2],
- b. Satisfy the 16 hour rule for graduate courses [Sec. 2-6],
- c. Obtain approval from the Graduate Program & Admissions Committee (GPAC) for a proposal from a student and a Graduate Faculty member that the faculty member be the student’s Dissertation advisor.

##### **Section 3-1. Candidacy Examination (admits from Fall 2011 onwards)**

The purpose of the Candidacy Exam is to certify that a graduate student has sufficient command and understanding in core areas of the physics discipline so that, along with the other requirements, admission as a candidate for the PhD degree is warranted. The exam covers the 4 core sections of the physics discipline: *classical mechanics*, *electricity and magnetism*, *quantum mechanics* and *statistical mechanics*. The level is aimed to be typical of upper undergraduate and beginning graduate level treatments of these areas. The Candidacy exam is not associated with any specific course; it seeks only to test whether a student can reason qualitatively and quantitatively with important concepts in the 4 core sections. To prepare, graduate students are encouraged to obtain copies of previous exams from the Department website or from the Department office.

The Candidacy Exam is administered over 2 days (typically the Tuesday and the Thursday) during a week at the beginning of each Fall and Spring semester. For each of the 4 sections 2 hours are allowed. On each day a specified section is to be examined in the first 2 hours, after which students are required to hand in their work. There is then a 10 minute break during which students who are to sit for the next section take their place. The next scheduled section takes place for 2 hours, after which students hand in their work for that section. For the subsequent day, the same arrangements will be implemented. For each semester offering of the Candidacy Exam, a detailed schedule of start and end times of each of the 4 sections shall be announced and distributed by the Department’s Candidacy Exam Committee.

Students are strongly encouraged (but not required) to take any or all of the 4 sections at the beginning of their first semester in the Graduate Program. The results of this first semester attempt will be used by the student’s academic advisor

and the Graduate Program Coordinator to determine and adjust an appropriate course schedule for the student.

At each offering of the Candidacy Exam after their first semester, students must sit for the exam sections they have not previously passed until passes in all 4 sections are accumulated through a maximum of 4 attempts. That is, a student is allowed a maximum of 4 opportunities to build a pass for the Candidacy Exam: 2 fall semesters and 2 spring semesters (including their first academic year semester). Exceptions must be requested jointly by the student and the academic advisor, and approved by the Graduate Program Committee before the end of the student's first year in the program.

A pass in any of the 4 sections at any opportunity (including during their optional first semester), will be recorded in the student's file, and releases the student from the need to sit for that section subsequently. Accumulation of passes in all 4 sections of the Candidacy Exam is normally required for admission to PhD Candidacy.

A pass in any section of the Candidacy Exam does not automatically qualify the student for any waiver of any subsequent course requirement in the graduate program, but can be taken into consideration in any subsequent request.

Before any student is denied admission to PhD Candidacy status because of performance on the Candidacy Exam, the Graduate Faculty shall, under extraordinary circumstances, have the option of considering a variety of other graduate program performance data (eg, grades in graduate courses, achievements or potential in research, publications, etc), to determine whether there is overriding evidence that PhD Candidacy should nevertheless be granted.

Topics covered by the Candidacy Exam are outlined below. Representative textbooks are indicated, as are representative KSU graduate and undergraduate courses.

*[Add representative KSU 4/5 and 6/7 course numbers to the 4 area outlines; change "Quantum and Atomic Physics" to "Quantum Mechanics". Update other area descriptions as appropriate.]*

***[ Eliminate the old Section 3.2 ]***