

# CHEMICAL PHYSICS, DOCTOR OF PHILOSOPHY (PH.D.)

**Advance to Candidacy:** In addition to the course requirements, students must submit a scholarly paper and make an oral presentation. The paper and presentation are evaluated by a candidacy committee consisting of at least three faculty members, generally including the advisor and a member of the advisory committee. In addition, students must pass the written Qualifying Examination, normally taken at the beginning of the second year.

Students with a well-developed thesis topic and research results are expected to include these results together with further research plans in their scholarly paper and oral presentation. Students less far along with research will present background material and summaries of the research areas in which they will be working. A concise review of the literature is expected, along with a bibliography of the most important literature. The length of the paper is expected to be between approximately 20 double space pages (12-point font) with 1-inch margins. The paper is to be submitted to the candidacy committee at least two weeks before the date of the oral presentation. The presentation is to last approximately 50 minutes and can be part of regularly scheduled seminar series such as the Informal Statistical Mechanics Seminar or the Nonlinear Dynamics Seminar. Two members of the candidacy committee must be present and there should be sufficient time for questions and discussion.

**Ph.D. Candidates:** Within 12 to 18 months after beginning Ph.D. research, the candidate is to select a Ph.D. Thesis Examination Committee. To complete the PhD, candidates must earn 12 credits of CHPH899 (Ph.D. dissertation research, only available after advancement to Ph.D. candidacy) and prepare a written Ph.D. dissertation, the format of which (font, margins, etc.) must follow the University of Maryland Thesis and Dissertation Style Guide.

Doctoral students must maintain a B average. Students must complete 24 credits of coursework including:

1. Two credits of seminar
2. Advanced laboratory course
3. Advanced course outside of the student's main field of study at the 600 level or above

Course	Title	Credits
<b>Core Requirements</b>		
24 credits of coursework including:		24
PHYS622	Introduction to Quantum Mechanics I	
PHYS623	Introduction to Quantum Mechanics II	
CHEM691		
Advanced laboratory course		
Advanced course		
Seminar courses		
Two Laboratory Rotations		
<b>Dissertation Research Requirements</b>		
CHPH899	Doctoral Dissertation Research	12
<b>Total Credits</b>		<b>36</b>