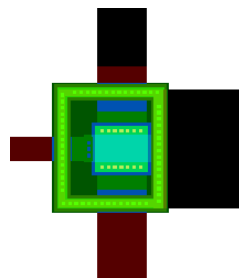


SECTION 1. GRADUATE PROGRAMS INTRODUCTION



General Information

A graduate student in the Physics Department at The Ohio State University is responsible for her/his educational program and her/his progress toward becoming a professional physicist. The Physics Department offers opportunities for that preparation that include courses, seminars, the availability of contemporary literature in the field and facilities for research with an excellent faculty having wide-ranging interests and expertise. In order to evaluate the student's progress, the department has a "core course" requirement and conducts the Candidacy Examination. Each student's progress is reviewed each spring.

The PhD program of the Physics Department is designed such that most students are expected to complete their "core course" requirement, part of the "advanced course" requirement, and pass the Candidacy Exam (see Section 3) within two years of starting the program. All students are required to complete all course requirements and pass the Candidacy Exam within three years of starting the program. Most students should be able to complete their PhD within six years.

This handbook contains the policies, rules, and procedures for the graduate program in the Department of Physics. It is intended to aid the student and her/his graduate faculty advisor with respect to questions regarding curriculum, examinations, financial support, and other such matters. The Physics graduate program is administered by the Departmental Graduate Studies Committee chaired by the Vice Chair for Graduate Studies and Research.

The Graduate School establishes and implements policies and rules which govern all graduate programs at The Ohio State University. These rules and procedures are contained in the Graduate School Handbook (GSH), available on the web at <http://www.gradsch.ohio-state.edu/Depo/PDF/Handbook/Handbook.pdf>. In many cases the Graduate School rules are repeated in this manual, but the GSH should be consulted when there is any question about Graduate School policy. References to the appropriate section of the GSH are given after each corresponding item in this handbook.

Note that information about course offerings and course descriptions, as well as other useful information for graduate students may be found online at the Department of Physics web page: <http://www.physics.ohio-state.edu/>.

Petitions for Exceptions to Policies and Rules

A graduate student wishing to make a special request for an exception to any Departmental policy, or to appeal a ruling by the Graduate Studies Committee, may address a written petition to the Committee through the Vice Chair for Graduate Studies. A supporting letter from the student's advisor should accompany the petition. The Graduate Studies Committee is advisory to the Department Chair and any decision by the Committee may be appealed to that level.

A graduate student who believes that circumstances warrant a waiver of Graduate School rules may submit a petition to the Dean of the Graduate School. Such petitions must include a letter from the advisor, course instructor (if appropriate), and the Vice Chair for Graduate Studies and Research.

Curricula and Examinations

Upon admission to the graduate program, each student is assigned an academic advisor from the Physics Graduate Faculty who will serve in that capacity until the student chooses a research advisor. Each student is also assigned a mentor from among the more advanced graduate students. It is the responsibility of the student to meet regularly with her/his academic advisor to develop an appropriate course program for the core courses and to assess his/her progress in that program. In the evaluation of the students' progress for the annual review of the students, the successful completion of the program will be a central consideration by the Graduate Studies Committee. The Annual Review of Graduate Student Performance is described in Section 4.

All students are required to complete their core and advanced course requirements and pass the Candidacy Examination prior to the beginning of their fourth academic year of graduate study. The Candidacy Examination is described in Section 3.

All students must obtain their advisor's permission to take any course outside the Physics Department.

All students must meet with their advisor at least once per quarter to obtain approval for the subsequent quarter's course schedule.

The current graduate physics courses are described online. The offerings for the current academic year, including professors assigned to the courses, are given online.

The M.S. and Ph.D. degree programs are described in detail in Sections 2 and 3 of this handbook.

Graduate Teaching and Research Associates

Associateships and Fellowships available to physics graduate students are summarized in Section 5. Departmental policies regarding associateship renewals and fourth-quarter Research Associates are also described in that section.

Departmental Channels of Communication

Graduate students are encouraged to communicate freely with their advisors, their graduate student mentors, with the Vice Chair for Graduate Studies and Research or any member of the Graduate Studies Committee, with members of the Physics Graduate Student Council, or with the Department Chair, on matters relative to their progress or appointments. The Vice Chair for Graduate Studies and Research may call general meetings for the purpose of discussing graduate student concerns. Membership in the standing Physics Department committees for the current year is given online.

Departmental Graduate Records

Academic and appointment records of each graduate student are maintained in the Graduate Studies Office for use by faculty advisors and the Graduate Studies Committee. It is essential that these records be complete and that all official actions be recorded there in case--as sometimes happens--records elsewhere become lost or misplaced. A copy of other forms (e.g. Master's Examination results, Candidacy Examination results, final oral examination, etc.) will be held in the student's file.

Procedural Deadlines:

RELATIVE TO COURSE REGISTRATION.	
First week	Adding a course can be accomplished online.
Second week	Adding a course requires the signature of your advisor <u>and</u> the course instructor.
Third week	Adding a course also requires the signature of the department chair.
Third Friday	Last day to add a course.
	Last day to drop a course with no mark entered on the transcript.
Seventh Friday	Last day to drop a course with the permission of instructor. A W will be entered on the transcript.
RELATIVE TO GRADUATION.	
Second Friday of the Quarter	Last day to file an Application to Graduate
Two weeks before Final Oral Exam	Last day to file Draft Approval Form
Two weeks before Commencement	Last day for Final Oral Exam
One week before Commencement	Last day to submit approved dissertation

Other dates and details are listed in the Master Schedule and can be obtained from the Graduate School each quarter.

Residency Requirements

Attention is called to the residency requirements for graduate programs listed in the Graduate School Handbook. Students should check with the Graduate School or with the Physics Graduate Studies Office to determine the current residency requirements for obtaining a Ph.D.

Time Limits

In addition to the three-year time limit set by the Physics program to complete all course requirements and pass the Candidacy Exam, Graduate students should be aware of the time limit known as the "Five year rule" imposed by the Graduate School on all graduate programs.

The "Five year rule" (**GSH: VII.2, VII.8**). A student has five years from the time he/she passes the Candidacy Examination and becomes a Ph.D. candidate (See Section 3) to submit a final dissertation to the Graduate School. If the five year limit is exceeded, the student must take a Supplemental Candidacy Examination, with the approval of the advisor and the Graduate Studies Committee. If this examination is passed, the student has two more years to complete the dissertation. Petitions to waive the "Five year rule" must be submitted to the Graduate School through the Departmental Graduate Studies Committee. Approval of such petitions cannot be assured. A petition must contain (1) a letter from the student describing the circumstances of the request and setting a firm deadline for completion of the dissertation, (2) a letter from the advisor supporting the petition, and (3) approval of the Graduate Studies Committee.

The Physics Graduate Faculty (GSH: Section XV)

Only those members of the Physics faculty who are also Graduate Faculty are authorized to give graduate instruction. Graduate Faculty status in Category M or P is granted by the Graduate School upon nomination by the Physics Graduate Studies Committee. Graduate Faculty status (M or P) is independent of faculty rank (Assistant Prof., Associate Prof., Professor). Only Category P Graduate Faculty can serve as research advisors for Ph.D. students and direct doctoral dissertations. Category M Graduate Faculty can serve as co-advisors with Category P faculty for Ph.D. students. The Graduate Faculty status of the Physics faculty is available from the Physics Graduate Studies Office.

Physics Research Building and Smith Laboratory

The Physics Research Building and Smith Laboratory of Physics are teaching and research facilities and should be used exclusively for those purposes. Faculty, graduate students, and staff must assume some responsibility for the security and cleanliness of the buildings.

Security of personnel and equipment are of utmost concern. People must be able to work in a safe, secure environment. Please see that hazards (chemical, electrical, or mechanical) are minimized and that your office or laboratory is kept locked when you are not there. Do not prop open doors. People who have permission to be in the building have their own keys. If you see anyone you do not recognize in the building when it is locked, ask the individual politely if you can assist him/her. If you observe suspicious activity, call the OSU Police.

TA Offices

Students housed in the TA area should read the guidelines pertaining to the use of the TA offices (available from the Graduate Secretary). Students should take responsibility for reporting any problems that develop in the area. Maintenance problems should be reported to Mark Reed or Phil Davids; other problems should be reported to the Graduate Secretary. A refrigerator and microwave oven are available for student use; please assist us in keeping these appliances clean.

Counseling and Consultation Service

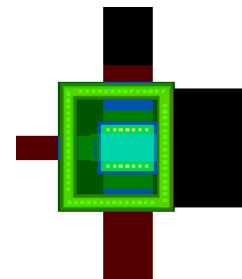
The Counseling and Consultation Service (CCS) is a division of the Office of Student Affairs which can provide individual counseling for students with academic, career, psychological, and social concerns. The CCS is located on the fourth floor of the Younkin Center. It is best to call for an appointment (292-5766).

Web and E-Mail

As mentioned above, the Department of Physics Web Site is <http://www.physics.ohio-state.edu>. Information about upcoming seminars and events, as well as other useful information, can be obtained by visiting our web site.

All students should obtain e-mail accounts and check them regularly. Much of the department's communication to students is now done via e-mail in order to save time and natural resources.

**SECTION 2.
THE MASTER'S DEGREE PROGRAM
(GSH: Section VI)**



General Information

The program for the master's degree is not fixed, but is planned by the student and a member of the Graduate Faculty who acts as an advisor to meet the student's individual needs and interests.

Each candidate for the master's degree must fulfill all Graduate School requirements for that degree. The student should become familiar with the current requirements and the order in which they must be fulfilled.

Options

There are three options for the M.S. degree. Details of each option are given below.

• **Plan A**

The candidate must satisfactorily complete a minimum of 45 quarter credit hours, including work on the thesis (A student ordinarily will have at least 10 hours of Physics 999 on her/his record.), and must attain a minimum GPA of B (3.00) in the courses required for the degree (See below). The research culminates in the presentation of a satisfactory formal thesis and the passing of the Final Oral Examination (See below.).

• **Plan B**

The candidate must satisfactorily complete a minimum of 50 quarter hours of graduate work, and must attain a minimum GPA of B (3.00) in the courses required for the degree (See below). No thesis is required, but the candidate must demonstrate satisfactory competence in individual research work. This individual work shall form a coherent program which will be the subject of a final written report. The requirement that the student demonstrate competence in individual work will normally be fulfilled by the satisfactory completion of 10 quarter hours of Physics 816. Students registered in this course may (a) do advanced experimental work under the supervision of the student's advisor using special facilities available in the advisor's laboratory, (b) do advanced theoretical work under the supervision of the student's advisor or (c) design, construct and test a new experiment for use in a class or laboratory setting. This work may be completed under the supervision of a faculty course supervisor. (Note: students may not register for more than 6 credit hours of 816 in any given quarter.)

The student must submit a satisfactory written report of the work and pass the Final Oral Examination administered by the student's advisor and a faculty member approved by the Departmental Graduate Studies Committee. (See below.) The certification to the Graduate School of the successful completion of the requirements for Plan B shall be made by the student's advisor and the Vice Chair for Graduate Studies and Research.

• **Non-thesis, Ph.D. Candidacy**

A student who has been admitted to candidacy (passed the Candidacy Examination) for the Ph.D. degree (Section 3) may be recommended for the M.S. degree by the Departmental Graduate Studies Committee without prejudice to her/his status as a candidate for the doctorate. Students in this situation need to notify the Graduate School that they will be continuing on to the Ph.D. so that they can enroll for the next quarter.

Application for the M.S. degree under this option must be initiated by the graduate student on the appropriate Graduate School form which must be signed by her/his advisor and the Vice Chair for Graduate Studies and Research.

Academic Requirements

M.S. programs are planned on an individual basis by the student and her/his advisor. Each program, however, is expected to reflect competencies represented by the following minimum requirements (See the list of courses online).

Courses:

- Methods of Theoretical Physics, P730, or Math 601, 602 for students deficient in mathematical preparation
- Physics 795 (twice)
- Five courses from the following list including two at the 800-level:
 - 617
 - 780.XX
 - 821, 822
 - 846, 847
 - 827, 828, 829
 - 834, 835, 836

GPA:

The student must attain a minimum GPA of B (3.00) in these courses.

The student together with her/his advisor will be responsible for the development of a program of course work and research appropriate to her/his background, abilities, and goals. This will include a minimum of 10 credit hours of research (i.e., P999 on Plan A or P816 on Plan B).

Recommended M.S. Curriculum

There will be considerable variation in the preparation and ability of students who have an M.S. degree as their goal. A possible one-year program is given below as one example.

Autumn	Winter	Spring	Summer
P617/780.XX	P846/P835	P847/P836	P816 or 999
P821/P834	P828	P829	
P827	P780.xx	P816 or 999	
P795	P795		

SAMPLE ONE-YEAR M.S. PROGRAM

Graduate Examinations-M.S.Degree (GSH: Section VI)

- The Master's Examination written portion:

A student working for a Master's degree under plan B (non-thesis option) is required by the Graduate School to pass a written portion of the Master's Examination designed to test the candidate's ability in physics. In the Department of Physics, the final written report is used to satisfy this requirement.

- The Master's Examination Oral Portion

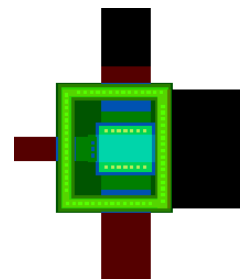
The oral portion of the Master's Examination is held after the submission for approval of the thesis (plan A) or final written report (plan B) and in the quarter the student expects to graduate. An "Application to Graduate" form must be filed with the Graduate School no later than the second Friday of that quarter.

The oral examination will be at least one hour in length. It will be conducted by a committee composed of the candidate's advisor (chairperson) and at least one other member of the graduate faculty.

The chairperson of the examining committee is responsible for arranging the examination and for certifying its results to the Graduate School and to the departmental Graduate Studies Committee. (There is a form for the report to the Graduate School.) The report of a two-person committee must be unanimous in order to be considered satisfactory. The certification to the Graduate School of the successful completion of the requirements for plan B shall be made by the student's advisor and the Vice Chair for Graduate Studies and Research.

A candidate who fails this examination must register in the Graduate School and continue work for an additional quarter before an opportunity will be given for a second examination. No student will be permitted a third examination.

SECTION 3. THE PH.D. DEGREE PROGRAM (GSH: Section VII)



General Information

The program for the Ph.D. degree must lead to mastery at a high level of the fundamental principles of physics and mathematics necessary for productive and creative scholarship in physics. The program is planned by the student and a member of the Graduate Faculty who acts as her/his research advisor so as to meet the student's individual needs and interests. Important aspects of the program include:

⇒ **Course requirements:** The “core course requirement” and “advanced course requirement” are described below.

⇒ **Research Advisor:** The student is encouraged to have chosen a research area of interest within the first year and should choose a research advisor who will serve to guide the student through her/his research project prior to the annual review of the second year. To encourage and facilitate this selection process, all first and second year physics graduate students must find a research advisor (temporary or permanent) and register for at least three credit hours of 816 (non-thesis research) or 999 (thesis research) during at least one quarter each academic year. This does not commit the student or advisor to on-going Ph.D. research. First year students typically register for this research during Spring Quarter, prior to the “Fourth Quarter Research GRA” appointment during Summer Quarter, which is discussed in Section 5. The required student time commitment for this research is at the discretion of the research advisor, and should take into account the student's coursework and teaching loads. At a minimum, it should include attending group meetings and reading pertinent literature.

⇒ **Advisory Committee:** Upon satisfying the “core course requirement” and completing at least two of the five required “advanced courses” (see below), the student and the research advisor will select an Advisory Committee consisting of the research advisor, a theorist and an experimentalist within the area of specialization of the advisor, and a fourth member of the graduate physics faculty from outside of the advisor's research area. This Advisory Committee will conduct the annual review for the student throughout the research program. It shall also serve as the Candidacy Exam Committee and (together with the Graduate School Representative) the Dissertation Committee (see below). If any member of the Advisory Committee is unable to fulfill any one of these functions within a reasonable time frame (e.g., because of sabbatical leave or extensive travel), a substitute may be petitioned by the submission of a letter from the student and the advisor to the Graduate Studies Office substantiating the need for a replacement.

⇒ **Candidacy Examination:** The Candidacy Examination is described below.

⇒ **Annual Review:** The Graduate Studies Committee of the department will review the performance of all graduate students annually as discussed in Section 5.

⇒ **Dissertation and Final Oral Examination:** The candidate must submit a satisfactory dissertation and pass a Final Oral Examination in order to qualify for the Ph.D. The Final Oral Examination is described below.

⇒ **Graduate School:** The student must fulfill all of the Graduate School requirements. The current requirements and the order in which they must be fulfilled are listed in the Graduate School Handbook.

⇒ **Foreign language:** The Department of Physics does not require a demonstration of competency in a foreign language as a part of the Ph.D. requirement.

⇒ **Language Requirements:** All international students who are not citizens of countries in which English is the official language are required by the Physics Department to be certified in spoken English prior to the end of the third quarter of study, not including Summer Quarter. In addition, the Graduate School requires that English 108.02 (a writing course) or its equivalent be completed within four quarters of entering graduate school (**GSH: Section II.6**).

Academic Requirements

General Requirements: As mentioned above, each student is expected to attain a high level of proficiency in the fundamentals of physics and to acquire a broad education in the principal areas of his/her physics research.

The courses in the curriculum fall into three categories:

- a set of core courses intended to develop the fundamentals of the field,
- a set of contemporary physics courses (780.XX) which provide a general background of contemporary problems in the respective research fields, and
- a set of advanced courses intended to develop the essentials of the various specialized areas of contemporary physics.

In addition to the formal course requirements, all graduate students in physics are expected to attend the weekly departmental colloquia and seminars on a regular basis.

It is strongly recommended that each student have some teaching experience as part of his or her graduate program.

Each student is expected to begin research as early as possible and should endeavor to decide on an area of specialization during the first year of study and a research advisor prior to the annual review for the second year. In any case the choice of research advisor should be made by the beginning of the third year.

Each student will be expected to proceed to the Ph. D. degree as quickly as is possible under her/his personal circumstances.

Departmental course requirements:

Core Course Requirement:

Except in the special case given below, all graduate students enrolled in the Physics Ph.D. program must take the core courses 827-828-829, 834-835-836, 846-847, and 821 (which are defined as the four sets of courses), at least five advanced courses, and pass the Candidacy Exam within the first three years of entering the program and attain a minimum GPA of B+ (3.30) in the core courses. If a student receives a low grade in any of the core courses, she/he may retake that course only once with the higher score being used to calculate the GPA. If this minimum GPA requirement is not met within the first three years of entering, the student is disqualified from the Ph.D. program.

***Special case--Students entering with a Physics GRE score of 750 or higher and with evidence from their official transcripts that they have successfully taken equivalent graduate courses at their previous institute may request to test out of one or more of the four sets of courses as appropriate to the equivalent courses taken. Exceptions to the 750 score requirement will be considered by petition to the Graduate Studies Committee. The method used for testing out of a course set is at the discretion of the Vice Chair for Graduate Studies and Research.

Advanced Course Requirement:

The advanced graduate course requirement for a Ph.D. is five courses total. The 800-level courses must be chosen from the list of "Advanced Courses" (see below), which are 830, 848, 880.02, 880.05, 880.06, 880.08, and 880.20, and no more than two 780 courses can be used for this requirement (i.e. five 800, four 800 + one 780, and three 800 + two 780 all meet the requirement). Except for those given above, there are no other restrictions on which courses may be taken to satisfy this requirement.

Note that students are encouraged to complete the core course requirements and enough of the advanced course requirement in order and pass the Candidacy Exam before the beginning of their third year. Ph.D. Graduate students are required to complete all course requirements and pass the Candidacy Exam before the beginning of their fourth year.

Core Courses - These courses provide the foundations of the physics program.

P821	Advanced Dynamics
P827-828-829	Quantum Mechanics
P834-835-836	Electromagnetic Field Theory
P846-847	Thermodynamics and Statistical Mechanics

Contemporary Physics Courses (P780 level) These courses provide a general overview of their respective research fields. Note that 780 courses are required to be taught at an introductory level such that senior undergraduates are qualified to take them.

P780.02	Physics of Elementary Particles
P780.04	Physics of Atoms and Molecules
P780.05	Physics of Nuclei
P780.06	Physics of Condensed Matter
P780.20	Special topics, including Physics Education, Biophysics, Computational Physics, Atomic and Laser Spectroscopy, etc.

In addition, other courses in contemporary physics at the 780 level are offered from time to time. A list of these courses is given online. Courses may be taught only when an adequate number of students enroll for credit in the course.

In order to become familiar with and get involved with the research programs in the department, students are required to enroll in the Seminar "Topics in Physics," Physics 795, during Autumn and Winter Quarters of their first year, and to register for at least three credit hours of 816 (non-thesis research) or 999 (thesis research) during at least one quarter during their first and second years. Graduate students who are Graduate Teaching Associates are also required to be enrolled in the Physics 801A seminar in any quarter (excluding summer) during the first year that they are teaching.

Advanced Courses - Several courses which are advanced extensions of the core course sequences are offered on a regular basis given sufficient demand by the students. These include:

P830	Advanced/Many-body quantum theory (one quarter)
P880.08	Field Theory (three quarters)
P848	Advanced Statistical Physics (one quarter) and
P880.06	Condensed Matter Physics (three quarters)
	Cosmology, Particles and the Early Universe, Nuclear Astrophysics (three quarters)
P880.02	Elementary Particle Physics (three quarters)
P880.05	Nuclear Physics (three quarters)
P880.20	Special Topics, including Atomic, Molecular and Optical Physics, Non-linear Physics, Group Theory, Spectroscopy, General Relativity, Physics Education, etc.

The "Special Topics" advanced courses are offered on an irregular basis.

With the approval of her/his Advisory Committee, a student may **substitute** two courses from any other department for two in Physics in satisfying the advanced course requirement.

Colloquia and Seminars - Colloquia and special seminars provide an important opportunity for the faculty and students in the department to be introduced to research programs underway in the department as well as to hear reports

from scientists from throughout the U.S. and other parts of the world. Attendance at the weekly departmental colloquia on a regular basis is expected of all graduate students. For students who have selected an area in which to do their research, or are in the process of making such a choice, attendance at the special seminars in that area provides an important means of becoming acquainted with the frontiers of the field. All students are strongly advised to attend the special seminars in their chosen research area.

Recommended Ph.D. Curricula

The following programs show possible arrangements of the courses in a Ph.D. program for students beginning graduate school with varying degrees of preparation. All of these examples assume that the student begins her/his study in Autumn Quarter. Other arrangements are possible. Students who have weaknesses in particular areas in physics or mathematics are expected to make up such deficiencies as early in their graduate career as possible.

For each student, an individual program is arranged through consultation between the graduate student and her/his academic advisor. Two sample curricula are shown below, each assuming a certain level of prior preparation.

Sample Programs

The first box below shows a sample program recommended for the Ph.D. student who enters graduate school **well prepared** as defined, for example, by our own undergraduate curriculum for students planning graduate study. The student's background includes, for example, Physics 622, 633, 657, 664 plus work in the 516, 616, 617 series (see the University Bulletin for a description of these courses). Note that prior to passing the candidacy exam, all non-fellowship students are required to register for at least nine credit hours during Au, W, and Sp Quarters and at least seven credits during Su Quarter, while fellowship students are required to register for a least 15 credit hours during all quarters. After passing the candidacy exam, all graduate students must register for a minimum of three credit hours to be considered "full time." Fellowship students must take at least three regular physics course (in addition to P795) during Autumn, Winter, and Spring Quarters of their first year.

	Autumn	Winter	Spring	Summer
Year 1	P821 P827 P834 P795	P846 P828 P835 P795	P847 P829 P836 P816	P816 or 999
Year 2	P780.x or 880.x P780.x or 880.x P999	P780.x or 880.x P780.x or 880.x P999	P880.x P880.x P999	P999 Candidacy Exam
Years 3, 4, 5...	P999 (Thesis Research)			

SAMPLE CURRICULUM FOR A *WELL-PREPARED* STUDENT

In some cases the course loads in the first example will be too heavy for a student on a Graduate Teaching Associate appointment. A sample curriculum for this case is given below, noting that a minimum of six courses per year is required to be in good standing and receive a "Fourth Quarter GRA." (See section 6.)

*note that GTAs are required to be enrolled in the Physics 801A seminar in any quarter (excluding summer) during the first year that they are teaching.

	Autumn	Winter	Spring	Summer
Year 1	P821 P827 P795 P801A	P846 P828 P795 P801A	P847 P829 P816 (research) P801A	P816 or 999
Year 2	P780.x or 880.x P834 P999	P780.x or 880.x P835 P999	P780.x or 880.x P836 P999	P999 Candidacy Exam
Years 3	P880.x P999	P880.x P999	P999	P999
Years 4, 5...	P999 (Thesis Research)			

SAMPLE CURRICULUM OF A REDUCED COURSE LOAD

The above sample curricula are intended primarily as guidelines. The curricula will be individually tailored to a student's background to make up any deficiencies as soon as possible and to allow the student to satisfy the "core course requirement" as soon as her/his level of preparation is adequate.

The student's research advisor is responsible for calling the Advisory Committee together to determine the set of advanced courses that will be a part of the student's curriculum. This program must be filed with the Vice Chair for Graduate Studies and Research.

Graduate Examinations-Ph.D. Degree

- ◆ The Ph.D. Candidacy Examination (formerly known as General Examination) (GSH: Section VII.4)

A student working towards the Ph.D. degree is required by the Graduate School to pass a Candidacy Examination for admission to candidacy for the degree. This exam consists of a written and an oral portion and is given on an individual basis. The student must be registered during the quarter in which he/she expects to take the Candidacy Examination and must have a GPA of 3.0 or higher. The Candidacy Exam is to be taken after the student has satisfied the "core course requirement" and has taken at least two of the five required "advanced courses" (see above). The student must complete all course requirements and pass the Candidacy Exam before the beginning of the fourth academic year. For students in those areas where the demand for the advanced courses may be limited and offered on a biannual basis, it is expected that some special consideration will be given in order that the student can proceed to the Candidacy Examination in a timely fashion. For example, in a case where not enough courses have been offered, or if courses need to be spread over time to parallel research, the Graduate Studies Committee will accept (in advance of the exam) a proposed timetable for satisfying the advanced course requirement so that the exam can proceed without unnecessary delay. The purpose of the exam is to test the student's knowledge of his/her general research area, to evaluate the student's ability to think and to express ideas clearly, and to determine the student's capacity to undertake independent research.

The Advisory Committee (see above) initiates and coordinates the written and oral portions of the Candidacy Examination. In consultation with the student and the Advisory Committee, the research advisor sets the date for the oral

portion of the Exam. The Advisory Committee then meets to choose a topic for the written portion. Thirty five to forty days before the oral portion of the exam, the advisor, on behalf of the Advisory Committee, informs the student of the topic by letter with a copy sent to the Graduate Studies Office. The advisor sends the "Notification of Candidacy Examination" form to the Graduate School. The student must submit copies of the written portion of the Examination to all members of the Candidacy Examination Committee four weeks after the topic has been assigned to him/her by the committee. In the case of a second attempt to pass the Candidacy Exam, The Graduate School appoints an additional Committee member (the "Graduate School Representative") to serve on the Candidacy Examination Committee. In this case, the student must also submit to the Graduate School Representative a copy of the Department of Physics Candidacy Exam Procedures, which the student may obtain from the Physics Graduate Studies office.

The written portion of the Candidacy Examination will consist of a professional quality report on the assigned topic. The topic should be sufficiently broad as to complement the intended research project and to ground the student thoroughly in the literature of her/his chosen research area. It should not be as narrow as a thesis research proposal. The topic should serve as a vehicle for the student to review and know the literature of the field. Students who are new to a research area may find it desirable to do background reading in the area before scheduling the Candidacy Examination. The student may freely use all the resources of the University including faculty and graduate students. The Advisory Committee may reserve the right not to answer questions of judgment but may very well answer questions of fact. The paper should be from 10 to 20 pages in length (not including figures and references), double spaced, and printed by a good quality printer. The paper should include a clear introduction to the topic and complete references.

The oral portion of the Candidacy Examination must follow the completion of the written portion within seven to ten days. It will generally last two hours, beginning with a summary of the material contained in the paper. The student will be instructed prior to the exam by the advisor to prepare a summary of his/her paper of no more than 20 minutes in length. The Candidacy Examination Committee will question the student about the specific topic of the paper and about broader issues related to the research area, including the material covered in the advanced courses, during and after the summary. All members of the Committee shall be given the opportunity to participate in the questioning. The Committee will be testing whether or not the student has learned the background, literature, techniques, etc. appropriate to her/his chosen specialty. This "common knowledge" of the field is considerably wider than that required for a dissertation project, but without it the research cannot be related to other work in the field. The Candidacy Examination should test whether a student is prepared to begin a detailed thesis research project. Attendance at the oral portion of the Candidacy Examination is strictly limited to the members of the Examination Committee. No observers, faculty or graduate students, may be present.

The written and the oral portions of the Candidacy Examination constitute a single examination, and the decision of the Examination Committee will be reached immediately following the oral portion. The research advisor, as chairperson, shall have the responsibility of seeing that the exam is conducted on a high level with fairness to the student and to the members of the Committee. To pass the Candidacy Examination the student must receive unanimous approval of the Examination Committee. For those students whose performance is unsatisfactory, the Examination Committee may recommend repetition of the exam within six months, or that the student obtain an M.S. degree and then ask for reconsideration. No student may take the Candidacy Examination more than twice. The outcome of the Exam shall be reported promptly to the Dean of the Graduate School and the Physics Graduate Studies Office on a form furnished to the Examination Committee.

Provided all other requirements have been met, the satisfactory performance on the Candidacy Exam admits the student to candidacy for the Ph.D. degree at the end of the quarter in which the Candidacy Exam is successfully completed. After the quarter in which he/she is admitted to candidacy the student must be registered for at least two quarters and for not fewer than six hours of graduate credit. (GSH VII.14). Note that as of December 2008, the Graduate School was still in the process of revising other Ph.D. residency requirements. Students should check with the Graduate School or with the Physics Graduate Studies Office to determine the current residency requirements for obtaining a Ph.D.

◆ The Dissertation and the Final Oral Exam (GSH: Sections VII.8 and VII.9)

An "Application to Graduate" form must be filed with the Graduate School no later than the second Friday of the quarter in which the student plans to graduate. The student's Advisory Committee is to be named on this form, and generally may not be changed after this time.

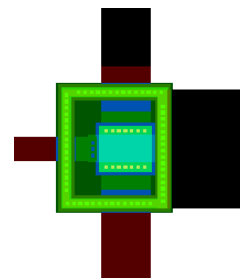
The student submits a draft copy of the dissertation document to the Advisory Committee for approval. By signing the "Draft Approval" form, the members of the Advisory Committee judge that the dissertation is of sufficient merit to

warrant holding the Final Oral Examination. The time and place of the Final Oral Examination shall be set by the advisor after consultation with the other members of the committee, and this information is communicated to the Graduate School by means of the "Draft Approval" form. This form, along with a complete dissertation draft, must be submitted to the Graduate School no later than two weeks before the Final Oral Exam. At the same time, the Graduate Secretary must be notified. The Graduate School will review the dissertation for proper format, will appoint a Graduate School Representative to the Final Oral Examination Committee, and will provide the advisor with a "Final Examination" form and a "Thesis Approval" form.

The Final Oral Examination is held at least two weeks after approval of the dissertation draft and must be scheduled within five years of the passing of the Candidacy Examination. The Final Oral Examination deals intensively with the portion of the candidate's field of specialization in which the dissertation falls, though it need not be confined exclusively to the subject matter of the dissertation. The Examination shall be conducted by the Final Defense Examination Committee (the Advisory Committee plus the Graduate School representative). The student's advisor acts as chairperson of this Final Defense Examination Committee. The Examination lasts approximately two hours.

The part of the exam in which the results of the student's research are presented may be attended by other graduate students and faculty members. However, only the members of the Examination Committee may pose questions to the candidate. At the conclusion of this presentation, the examination committee may continue questioning the student, if it wishes. After this question period, the student and the audience are excused from the room and the decision regarding performance is made. In order to be considered satisfactory, the report of the Examination Committee must be unanimous. The Graduate School shall be notified promptly of the results of the Examination on the "Final Defense Examination" form. A copy of the signed form should be delivered to the Physics Graduate Studies Office. On the "Thesis Approval" form, the dissertation committee gives final approval to the dissertation document. The approved dissertation is submitted to the graduate school no later than one week before commencement.

SECTION 4. ANNUAL REVIEW OF GRADUATE STUDENT PERFORMANCE



The Evaluation Process

The Faculty of the Department of Physics has charged the Departmental Graduate Studies Committee with the task of reviewing annually in the Spring Quarter the record of achievement and rate of progress of each graduate student to determine if he/she is "in good standing" in the department and eligible for continuing financial aid. In the case of students during their first two years, the term "in good standing" is applied to eligibility for the fourth quarter appointment and for students beyond the second year, the term "in good standing" is required for continuing financial support from any source. On the basis of this review the Graduate Studies Committee makes recommendations about the student's progress to the student, to the advisor, and to the Chairperson of the Department. In order to carry out this function in a fair and responsible manner, the Committee requires detailed and accurate information from various sources. In particular, it obtains information from the student, from the faculty advisor/Advisory Committee, from course grades and, in those cases in which the student holds a teaching associateship, from the faculty course supervisor and from student course evaluation forms. Each source of information plays a role as indicated in the following sections:

⇒ **The Student:** Students are asked to complete a questionnaire (obtained from the Graduate Studies Office) which provides a statement of their academic goals, their estimate of their progress toward them, and any special circumstances which they wish considered.

⇒ **The Advisor:** The student's advisor is asked to complete a questionnaire giving her/his evaluation of the student's progress and potential. Since the advisor is ordinarily the person who has had the largest amount of personal interaction with the student, this evaluation is extremely important. It is the mutual responsibility of the student and the advisor to discuss and evaluate the student's progress on a continuing basis.

⇒ **Advisory Committee:** Students who have passed the Candidacy Examination shall have an annual meeting with their Advisory Committee to review the progress over the past year. This review may include a short (~15 minute) oral report of recent activities by the student to the Advisory Committee. A copy of Advisory Committee report shall be submitted to the Graduate Studies Committee for their use in the annual review.

⇒ **Academic Program and Course Grades:** The program of courses selected by the student is useful as an indicator of the level of work being undertaken and of the progress during the year. The Committee will translate these grades as follows:

A(4.0), A-(3.7)	= Superior performance in the course
B+(3.3)	= Good performance in the course
B(3.0)	= Adequate performance in the course
B-(2.7)	= Inadequate performance in the course
C+ or lower grade	= Performance not at graduate level

Non-physics courses will not be considered in determining the grade point average to be used by the Graduate Studies Committee in evaluating the progress of the student. During the first two years, "satisfactory progress" includes the enrollment in and successful completion of a combination of three core, contemporary physics and/or advanced courses per quarter for Fellows and six such courses per academic year for GTAs, and maintaining a GPA of 3.30 or better.

⇒ **Teaching Performance:** Normally, graduate students hold a teaching associateship at some time during their graduate career. It provides both valuable experience and an opportunity for students to explore their interests and abilities in this area. While it is rather difficult to evaluate a teacher if fine gradations in a performance scale are required, it is relatively easy to distinguish excellent, average, and poor performance. Reports from the faculty course supervisor and the statistical results from students' course evaluation forms provide useful indicators to the Committee.

⇒ **Academic Probation:** While the Physics Department uses the Physics courses for their evaluation of satisfactory progress in the annual review, the graduate school includes all courses in the evaluation of its "Probation" standing. A

student on probation is not considered to be in good standing with the physics department and is not normally eligible for continuing financial support from the department.

Committee Recommendations

Master's Program.

If the Committee's review of the work of a student who wishes to obtain the Master's degree indicates that he/she is making satisfactory progress it will ordinarily be expected that he/she will complete the requirements for the Plan A or Plan B Master's Degree during the following year.

If the review indicates that the student's work is unsatisfactory the Committee will ordinarily recommend that he/she not continue graduate work in physics at O.S.U.

Ph.D. Program.

The performance of students who wish to work directly toward the Ph.D. will be evaluated by the Committee, which may recommend various alternatives as follows:

After the first year of graduate work:

For a student who enters with a B.S. degree,

- Proceed to finish up the "core course" requirement and take sufficient advanced courses to take the Candidacy Exam within the next year.
- Proceed to complete the Master's Degree in the next year and then apply for continuation in the Ph.D. program.
- Proceed to complete graduate work in physics at O.S.U. with the Master's Degree within the next year.
- Discontinue graduate work in physics at O.S.U.

For a student who enters with an M.S. degree,

- Proceed to finish up the "core course" requirement and take sufficient advanced courses to take the Candidacy Exam within the next year.
- Discontinue graduate work in physics at O.S.U.

After the second year of graduate work the Committee may recommend:

For a student who has NOT yet satisfied the "core course" requirement:

- Proceed to finish all course requirements and take the Candidacy Exam within the next year.
- Proceed to complete the Master's Degree within the next quarter and to apply for continuation in the Ph.D. program.
- Proceed to complete graduate work in physics at O.S.U. with the Master's Degree within the next quarter.
- Discontinue graduate work in physics at O.S.U.

For a student who has satisfied the “core course” requirement:

- Develop the Advisory Committee, define the required advanced courses and proceed to the Candidacy Examination.

For a student who has performed unsatisfactorily on the Candidacy Examination:

- On the recommendation of the student's examining committee, repeat the Candidacy Examination.
- Proceed to complete the requirements for a Master's Degree.
- Discontinue graduate work in physics at O.S.U.

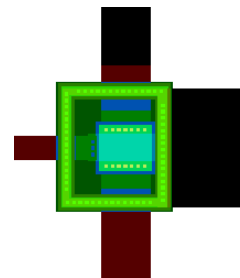
For a student in her/his third year and beyond,

- The student shall meet with her/his Advisory Committee early in the spring quarter to review her/his progress toward the PhD. The Advisory Committee will make recommendations to the student regarding steps necessary to complete her/his dissertation work as soon as possible. If the Committee concludes that there is merit in continuing financial support beyond the third year it must be delineated in its annual review report. These recommendations shall be submitted to the Graduate Studies Office and will be included in the departmental annual review process.
- The annual reviews occurring after the student has passed the Candidacy Examination will serve principally to monitor the student's progress toward the completion of the requirements for the Ph.D. degree.

Communications and Follow Up

The results of the annual review are communicated to the student by letter with a copy to the advisor. When specific information and counsel is included in the annual review letter, the Graduate Studies Committee will expect the student to follow through. Thus, for example, if the letter contains a reference to the time at which the student will take the Candidacy Examination, the Graduate Studies Committee expects the student to comply. Failure to do so may affect judgments regarding future academic standing and/or financial support.

**SECTION 5.
GRADUATE ASSOCIATESHIPS AND FELLOWSHIPS
(GSH: Sections IX and X)**



Graduate Associateship Appointments

A principal function of graduate education is to assist the student in obtaining a strong background of knowledge and experience in both the theoretical and practical aspects of her/his field in preparation for a future career. In this career he/she may be active either in teaching or in research, or, quite commonly, in some combination of the two. It is expected that each student as a part of her/his graduate training will obtain experience in both of these areas. The relative emphasis in an individual program will, of course, be determined by the nature of the student's goals and by her/his interests and abilities. Graduate teaching and research associateships (GTAs and GRAs) in this Department provide mechanisms by which a student may gain practical experience in these areas. Since they furnish as well a modest amount of financial support, they are subject both to academic and other considerations such as being in "good standing" with the Department as defined in the following sections:

1. All students must be in good academic standing and making progress toward their degrees to be eligible for any graduate associateship appointment.
2. A student who holds a graduate associateship in this Department may not hold any other university appointment and may not hold simultaneous positions outside of the University without previous approval of the Graduate Studies Committee.
3. A student who has held a graduate teaching associateship during the first year of graduate work will ordinarily be reappointed for a second year if her/his academic and teaching performances are satisfactory. Beyond that time she/he may be given additional appointments provided that her/his record and her/his rate of progress remain satisfactory and she/he is recommended for reappointment by the Departmental Graduate Studies Committee. The policy regarding appointment to GTA positions after the second year is found in the Appendix. Note that GTA appointments in Physics will not be given to graduate students who are not in good standing with the Department. Any petitions for exceptions to this policy must be made to the Chair of the Department of Physics.
4. The normal GA appointment will be 50% time. Students who wish for some reason to hold a 25% appointment must make their reasons known in writing to the Graduate Studies Committee. The Committee will consider such requests in consultation with the student's advisor. Approval of a 25% appointment by the Graduate Studies Committee will only be on a quarter-by-quarter basis, and will be granted only in exceptional circumstances.
5. Stipends for GTAs will normally be established for nine months beginning on October 1. The stipend for Ph.D. candidates (passed the Candidacy Examination) is set slightly higher than the stipend for students who have yet to establish Ph.D. candidacy. Stipends for international students who are not yet certified in spoken English will be substantially lower, but will be increased to the corresponding level of other GTAs the quarter after they become certified in spoken English. Stipends for GRAs may vary, but cannot be less than the minimum GTA salaries established by the Graduate School.
6. All international students who are not citizens of countries in which English is the official language (regardless of type of support) are required to become certified in spoken English prior to the end of the third quarter of study, not including Summer Quarter.
7. Requests for changes from GTA status to GRA status, or vice versa, must be made before the seventh week of the quarter prior to the quarter the change is to take effect. Requests made after this deadline may not be approved.
8. GTAs are required to be enrolled in the Physics 801A seminar in any quarter (excluding summer) during the first year that they are teaching.
9. GTAs and GRAs receive quarterly or annual contracts outlining their duties, stipend, and benefits. Students are required to sign and return their contracts to the Physics Graduate Studies Office.

"Fourth-Quarter" GRAs

Students who hold appointments as departmental graduate associates and who wish to pursue their graduate work on a year-round basis may receive a "Fourth-Quarter" GRA appointment under the conditions indicated in this section.

Eligibility:

⇒ To be eligible for a "Fourth-Quarter" GRA, a student must not have been in residence for more than ten quarters, and must have held a departmental GA for three consecutive quarters before the quarter in which the appointment will be held. The student must have been in "good standing" during that time and must continue in good standing during the quarter of appointment. The definition of "good standing" is determined by the Departmental Graduate Studies Committee on a case-by-case basis in which all information available to the Committee is considered. In each case the evaluation of teaching must not indicate poor performance. During the first year the student must have successfully completed a combination of six core, contemporary physics and/or advanced courses, or appropriate 600-level courses during the academic year and must have maintained a cumulative GPA (CPHR) of 3.30 or better. For second year students:

- (a) if they have not satisfied the "core course" requirement they must have successfully completed a combination of six core courses, contemporary physics courses and/or advanced physics courses per academic year and to have maintained a CPHR of 3.30 or better;
- (b) if they have satisfied the "core course" requirement, they are expected to have successfully completed a combination of six courses per year or to have completed their program of required advanced courses and to have maintained a CPHR of 3.30 or better. An appropriate course from another department or three or more credit hours of 816 or 999 research in a particular quarter may be substituted for a physics course, upon approval of the student's research advisor. In exceptional cases, such as superb teaching, the GSC may grant an exception to the six-course rule.

⇒ Students whose native language is not English must be certified for classroom teaching by the ESL program to be considered in "good standing." Students who are not certified prior to the Autumn Quarter of their second year are not eligible for departmental GTA support until such time as they are certified.

⇒ "Fourth-Quarter" GRA appointments will normally be made for the quarter following that in which the student becomes eligible; that is, they will usually be for the Summer Quarter. Requests for other quarters off from teaching will be entertained and accommodated whenever possible, but the time of all appointments necessarily remains at the discretion of the Department Chair.

"Fourth-Quarter" GRAs are **not** ordinarily provided for:

- a student who is completing graduate work at OSU with a Master's degree and who has not completed [his/her](#) required course work before the end of the Spring Quarter of the second year of graduate work.
- a student who is terminating her/his studies in the OSU Physics Department.
- a student who has held a teaching appointment on a quarter-by-quarter basis during the previous three quarters.
- a student who has been in residence more than ten quarters.
- a student in the Chemical Physics Program if the student did not have his/her GTA appointment for the last three quarters in the Department of Physics.
- an international student whose native language is not English who has not been certified proficient in spoken English prior to the end of the third quarter of residency as a GTA (normally by the end of Spring quarter).

Program:

During the time of her/his "Fourth-Quarter" GRA a student must be registered in the Graduate School on a full-time basis and must be actively engaged in working toward fulfilling the requirements for an advanced degree. Outside work or other appointments are not permitted.

During the time of his/her "Fourth-Quarter GRA," a student may, with explicit permission from his/her faculty advisor, take up to one formal course. The remainder of her/his time should be devoted to work in a research area under the supervision of a faculty member who has agreed to direct her/his work during that quarter. For this purpose, the student should register in Physics 999 (or Physics 816 if he or she is in a Plan B M.S. program) for the quarter. Pre-candidacy students should register for sufficient credits of 999 or 816 so they are registered for the minimum seven credits required of pre-candidacy students during Su quarter. First and second year students should discuss their plans with a faculty advisor well in advance of the beginning of the "Fourth-Quarter."

Reappointment of a GTA

As part of the annual review process, each student is requested to complete the portion of the student questionnaire containing information about the need for financial support during the following academic year. If the student requests a GTA renewal and meets the eligibility requirements of the Graduate School (GSH:IX) this request is considered in conjunction with his or her annual review. The primary consideration for a GTA renewal is a satisfactory result from the teacher evaluation component of the review. A successful review in the non-teaching areas is not considered sufficient to assure a reappointment for a GTA. Students whose native language is not English must certify proficiency in Spoken English by the end of their fourth quarter of residency to be eligible for reappointment as a GTA.

Fellowships and Awards

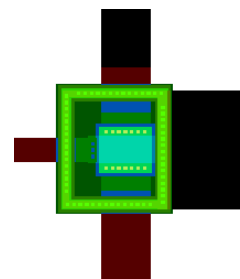
Fellowships or other support may be available from governmental agencies, from the University, or from private sources. All applications for University awards must be placed through the Departmental Graduate Studies Committee. The Vice Chair for Graduate Studies and Research will notify graduate students and faculty of University-sponsored fellowships and facilitate proper and timely processing of applications. The major awards available from the Ohio State University are:

- ◆ University Fellowships. These awards of stipend, tuition and fees are available only to entering graduate students.
- ◆ Presidential Fellowships. These awards of stipend, tuition and fees are available to superior graduate students in their final year. Competitions are held in Autumn and Spring quarters.
- ◆ Fowler Fellowships. These are multi-year awards of very attractive stipend, tuition, and fees available only to entering graduate students.
- ◆ Government Fellowships/Traineeships. From time to time the department will have fellowships/traineeships sponsored by the federal government which include stipend, tuition and fees. The determination of the awardees for these fellowships/traineeships will be conducted by the Graduate Studies Committee.
- ◆ Alumni Grants for Graduate Research and Scholarship Awards (AGGRS). These awards of up to \$2000 for support of thesis research are available to all Ph.D. candidates. Competitions are held in Autumn and Spring quarters.

GA and Fellowship appointment minimum credit hours per quarter

The minimum number of credit hours required per quarter depends on the type and condition of the appointment, and whether the student has passed the Candidacy Exam. Prior to passing the Candidacy Exam, all Fellows (Departmental, Fowler, Presidential, University, or other) are required to register for a minimum of 15 credit hours per quarter, while pre-candidacy GTAs and GRAs are required to register for a minimum of nine credit hours during Au, W, and Sp quarters, and a minimum of seven credit hours during Su quarter. After passing the Candidacy Exam, Fellows, GTAs, and GRAs are all required to register for a minimum of three credit hours per quarter.

**SECTION 6.
ACADEMIC STANDARDS
(GSH: Sections V and Appendix B)**



Good Standing

The Graduate School uses all courses in evaluating the academic standing of its graduate students. A student whose GPA falls below 3.0 after 15 credit hours have been attempted is considered not to be in good standing and is placed on probation by the Dean of the Graduate School. A student who is placed on probation may be dismissed from the University if he/she does not raise his/her GPA to 3.0 or better by the end of the subsequent quarter of enrollment. This dismissal is at the discretion of the Graduate School after consultation with the Vice Chair for Graduate Studies. A student who is on probation in the Graduate School may not be appointed as a Graduate Associate.

Scholarly and Academic Misconduct

The preface to the National Academy Press' 1995 publication "On Being a Scientist: Responsible Conduct in Research" states

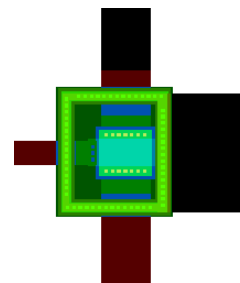
"The scientific research enterprise, like other human activities, is built on a foundation of trust. Scientists trust that the results reported by others are valid. Society trusts that the results of research reflect an honest attempt by scientists to describe the world accurately and without bias. The level of trust that has characterized science and its relationship with society has contributed to a period of unparalleled scientific productivity. But this trust will endure only if the scientific community devotes itself to exemplifying and transmitting the values associated with ethical scientific conduct."

The Ohio State University and the Department of Physics endeavor to instill in students a clear sense of responsible conduct in research and in academic work, noting the close connection between the two in a university environment.

Charges of scholarly misconduct against graduate students are reviewed by the Dean of the Graduate School. Guidelines for the Review and Investigation of Allegations of Scholarly Misconduct by Graduate Students are available in the Graduate Studies Office and in the Graduate School.

Academic Misconduct is defined by the Code of Student Conduct (Ohio Administrative Code Rule 3335-31-02) as "any activity which tends to compromise the academic integrity of the institution, or subvert the educational process." Examples given in the Code include, but are not limited to, providing or receiving information during examinations, providing unauthorized assistance in a laboratory, and submitting plagiarized work for an academic requirement. Information about Academic Misconduct is available at the OAC website: <http://oaa.osu.edu/coam/faq.html>.

SECTION 7. GRADUATE STUDENT ORGANIZATIONS



Physics Graduate Student Council (PGSC)

The Physics Graduate Student Council's purpose is to facilitate communications between the department and the graduate students on matters of mutual concern and interest. The six members of the PGSC are elected during the seventh week of Spring Quarter for the following academic year. The PGSC holds quarterly open meetings which all physics graduate students are encouraged to attend to discuss the problems and concerns of the graduate students. Additional meetings of the PGSC are held as needed. Incoming graduate students are encouraged to seek the advice and counsel of any representative on issues related to the University, the department, and the community.

The PGSC participates in the Fall orientation sessions for incoming students and assists with the recruiting program for prospective graduate students. The PGSC conducts elections for graduate student representatives to the Physics Department standing committees from interested physics students.

The members of Physics Graduate Student Council for the current academic year are listed online.

Council of Graduate Students

On The Ohio State University campus, the Council of Graduate Students serves as the official sounding board for graduate student opinion. In this capacity some members of the Council serve with University administrators and faculty on committees and councils of the University.

As well as representing graduate students on campus, the Council publishes a newsletter called the Graduate Voice, and conducts an annual Graduate Research Forum, a juried symposium where graduate students in all disciplines present their research.

Graduate students in the Department of Physics elect representatives to the Council of Graduate Students in Spring Quarter for terms starting in Autumn Quarter. The meetings of the Council are held three times per quarter and may be attended by any interested student, though only elected representatives may vote. The office of CGS is located in Ohio Stadium.

Further information may be obtained from the Physics Department representatives to CGS.

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Appendix A

Department of Physics Policy on Graduate Student Support Graduate Studies Committee, June 15, 2005

I. Preamble:

This document states the policy of the Department of Physics regarding support of graduate students as Graduate Teaching Associates (GTAs) and Graduate Research Associates (GRAs). It applies to all graduate students who have entered the Graduate Physics program beginning in the Summer 2004 quarter and later. Any petitions for exceptions to this policy must be made to the Chair of the Department of Physics.

II. Operational Procedures:

Subject to satisfactory progress, an incoming student can expect two years of GTA/Fellowship support. For the purposes of this document, an "advanced graduate student" is defined as a student beyond their second year. For students who start with courses below the level of the department's standard core courses, the Vice-Chair for Graduate Studies may extend this period.

A. As dictated by the availability of open GTAs, the department will make these GTAs available to advanced graduate students based on letters of support, written to the Vice Chair for Graduate Studies, from the students' research advisors who are voting members of the Physics Faculty. These letters will include plans for future GRA support and the expected Ph.D. graduation date. Documented urgent, current need will be an important factor. GTA appointments addressed here will be made on a quarter by quarter basis with requests due no later than one month before the start of a quarter and will be awarded according to the following priority list:

1. Advanced graduate students who have passed their Candidacy Exam and have been supported as GRAs and for which the funds to pay their GRA stipends are no longer available.

2. Advanced graduate students who want to begin work with a) a tenured faculty member who is presently supporting one or more students on OSURF-funded GRAs and who has no other student on a GTA, or b) an Assistant Professor who has no more than one other student on a GTA. Priority will be given to students who entered the program in the Summer '04 and Autumn '04 quarters.

3. The remaining advanced physics graduate students

4. Graduate students from other departments

**All of these students must have (or show promise of) satisfactory GTA records. For categories 3., and 4., proven GTA quality will play a larger role in the selection process.

** The department will strongly discourage the 'gaming' of the above by moving students on and off grants, playing group dynamics, etc.

B. GTA offers to students whose native languages are such that they do not typically pass the SPEAK test upon arrival at OSU are effectively Fellowship offers. This decreases the number of Fellowships the department can offer. International students are required to be English certified within one year, but any "special case" time extensions of this policy will reduce the number of Fellowship offers in the following year.

Appendix B

Department of Physics 4th-quarter Fellowship advisor policy

February 23, 2007

The Department of Physics normally gives a graduate student in their first and second years who is in good academic standing a 4th quarter Fellowship (4QF) in the Summer quarter (see Physics Graduate Student Handbook). One of the requirements for a student to receive a 4QF is that the student has a 4QF faculty advisor.

1. The present policy applies to the choice of a 4QF advisor for all first and second year students requesting 4QF support.
2. A first or second-year student must choose a 4QF advisor **before** the Spring Annual review and this advisor will act as the temporary research/academic advisor for the student.
3. In order to act as a 4QF advisor, a faculty member must be able to convincingly show that there would be a good chance to support the student on a GRA beginning in the Autumn quarter of the student's third year if the decision were made to be the student's Ph.D. thesis advisor.
4. A faculty member is normally ineligible to serve as a 4QF advisor if he/she has students of third year and beyond who are supported by the department as GTAs for more than a total of two quarters in the academic year.

Note that if a student's choice for a 4QF advisor is rejected by the department in the context of this policy (i.e. items 3 and 4 above), the student will not be penalized and is free to make another choice of a 4QF advisor. In this case, it is strongly recommended that the student consult with the Vice Chair for Graduate Studies and Research in choosing another faculty member as the 4QF advisor.

Appendix C

Summer GTA support policy for Physics graduate students

April 2, 2007

- Applies to all students requesting Summer GTA support.
- The number of Summer GTAs hired will be limited by the teaching needs of the department during the Summer quarter.
- The request for a Summer GTA will be submitted as part of the student's Annual Review input. Decisions on Summer GTA requests will be made by the Grad Studies Committee and will be expedited so that students know their Summer status as early as possible.
- The requests will be evaluated with consideration given to the student's a) past teaching performance from information provided by the Vice Chair for Administration, b) academic performance in the graduate program, c) promise for future GRA support, and d) according to the following priority list:
 1. Graduate students who have passed the Candidacy Exam and have been recently supported as GRAs and for which the funds to pay their GRA stipends are no longer available.
 2. Graduate students who have passed the Candidacy Exam and will defend their Ph.D. thesis by the end of the following Spring quarter at the latest.
 3. Graduate students who want to begin work with a) a tenured faculty member who is presently supporting one or more students on OSURF-funded GRAs and who has no other student on a GTA, or b) an Assistant Professor who has no more than one other student on a GTA.
 4. The remaining physics graduate students
 5. Graduate students from other departments