

HANDBOOK FOR GRADUATE STUDENTS IN PHYSICS & ASTRONOMY

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I. INTRODUCTION

The Department offers both the Ph.D. degree in physics and the M.S. degree in physics. The M.S. degree includes both the thesis option (Plan I) and the non-thesis option (Plan II). Both the Ph.D. and the M.S. degrees in physics are offered with specializations in astronomy. The departmental requirements for these degrees are outlined in this manual and in the Graduate Catalog. The student is subject to the general rules and regulations of the Graduate School as given in the Graduate Catalog as well as the specific rules and regulations of the Department of Physics and Astronomy.

Each student has an individual responsibility to know and understand the rules and regulations of the Graduate School and of the Department and the requirements for the degree that he or she is pursuing. Students are encouraged to consult with their faculty advisors or the department chairperson if these requirements are not clearly understood. Each graduate student will be assigned an academic advisor when the student initially enrolls in the Department. After a student has chosen a research advisor (as described elsewhere in this manual), then the research advisor will replace the academic advisor as the student's faculty advisor (unless they are the same).

II. ACADEMIC POLICIES AND REQUIREMENTS

A. SCHOLASTIC REQUIREMENTS

According to the Graduate Catalog, a student must maintain a cumulative average of not less than "B" (3.0 on a 4.0 scale) in the graduate courses undertaken at The University of Alabama, and at least 75% of these hours must be completed with grades of not less than "B". Courses in which a student has made a grade of "P" or "S" are not considered in evaluations of academic standing. Students who do not meet these requirements (after having earned 6 semesters of credit) are placed on probation. Probationary status must be removed by raising the overall grade point average to "B" or better during the next 12 hours of graduate course work. Students who are conditionally

admitted must maintain a "B" average during their first 12 hours. (PH597, AY597, PH598, and PH698 should only be taken pass/fail and cannot be used in computing GPA.)

B. ENROLLMENT POLICIES FOR GRADUATE TEACHING/RESEARCH ASSISTANTS

The following is a summary of the current graduate school policies regarding course loads for all teaching assistants and research assistants.

Graduate assistants must be full-time graduate students during all periods in which they receive financial assistance from the University or associated agencies. Depending upon their assistantship obligations, graduate assistants should normally enroll for 6 to 12 hours of graduate course work. The following enrollment limitations are imposed by the Graduate School.

<u>TA/RA AWARD</u>	<u>MIN-MAX GRADUATE ENROLLMENT</u>
0.25 FTE	9-12 semester hours
0.50 FTE	6-9 semester hours
0.75 FTE	3-6 semester hours
1.00 FTE	1-3 semester hours

In addition it should be noted that Immigration Regulations limit international students to a maximum of 20 hours per week of employment, including any combinations of on- and off-campus positions.

A fellowship, as a nonservice award, is outside the scope of these policies. Fellows, by the terms of their appointments, are required to undertake full-time graduate study.

Enrollment during the summer is not mandatory for graduate teaching and research assistants.

C. LIMITATIONS ON FINANCIAL SUPPORT

1. *Jobs outside the Department*

Teaching and research assistants who hold a 0.5 FTE or greater appointment are not allowed to hold additional employment outside the Department, with the exception of

tutoring, without special permission from the department chairperson. The Department's policy is that time not taken up by assistantship duties should be devoted to course work, research, and other degree requirements. Since tutoring aids graduate students in learning the fundamentals of their discipline, a maximum of 5 hours of tutoring per week is allowed. Tutoring students for pay in a course in which you are assigned is not allowed.

3. *Time limits on financial support*

A new graduate student who has been awarded a teaching assistantship can normally expect to have the TA renewed as long as he/she is making satisfactory progress towards a degree and fulfilling his/her assigned duties in an acceptable manner, as stipulated by the student's advisor and the department chairperson, and as long as funds are available. There are time limits, however, on the total number of years that a student may hold a TA. A student working toward a M.S. degree will normally be expected to complete the degree requirements within two years, and financial support will not routinely continue beyond that period. In special cases, upon petition and approval of the department chairperson, financial support may be continued for up to three years. Financial support for Ph.D. students may be withdrawn if they do not pass the Qualifying Exam by the end of their second year in residence and if they do not pass the Preliminary Exam by the end of their fourth year in residence. A maximum of six years of TA support is allowed for Ph.D. students. This does *not* mean, however, that students are automatically guaranteed six years of support. Students are encouraged to graduate in a timely manner, and support will not be continued if it is decided that the student is not making adequate progress. Students who are required to pass the International Teaching Assistant Program exam must do so by the end of their first academic year in order to receive continued TA support.

Research assistantships are typically awarded by individual faculty members with research grants. RA support is subject to the commitment by a faculty member with available funding, which may change from year to year. If an incoming student is

awarded an RA which is not continued during the second year, the TA support for the second year will be decided in competition with other incoming students.

III. DEGREE REQUIREMENTS FOR THE PH.D.

A. COURSE REQUIREMENTS

1. *Physics*

A total of 48 hours of formal course work is required (in addition to 24 hours of dissertation research). All students must take the following six core physics courses:

Core Courses:

PH 501 - Classical Mechanics

PH 531/532 - Electromagnetic Theory

PH 541/542 - Quantum Mechanics

PH 571 - Kinetic Theory and Statistical Mechanics

The completion of any of the above courses (or the equivalent as approved by the department chairperson) with a grade of "B" (3.0/4.0) or better prior to enrolling as a graduate student in this department will constitute fulfillment of the requirement for that course. (See Section V.)

Physics Seminar: All full-time physics students are required to enroll for one hour of PH 597 (Physics Seminar) each semester in residence. Seminar requirements include attending at least 10 specialty seminars (e.g., MINT or High Energy) and/or departmental colloquia. First-year physics students must attend a minimum of one MINT and one High Energy seminar. For students in the second year and beyond, the division among seminars and departmental colloquia will be determined by the student's advisor in consultation with the student. Students in the second year and beyond must also make one presentation each semester. Grading for PH 597 is pass/fail.

Other course requirements: Physics students must take an additional 18 hours of graduate work as determined by the student's advisor in consultation with the student. Up to six hours may be a combination of PH 597, PH 598, and PH 698 (if approved by the advisor). The remaining 12 hours of the 48 hour course requirement can be chosen

by the student and can include PH 597, PH 598, and PH 698 as long as the total of these courses applied to the 48 hour requirement does not exceed six hours. A maximum of 12 of the 48 hours may be taken outside the department.

Some recommended mathematics courses:

MA 500/501 - Mathematical Methods of Physics

MA 510 - Numerical Linear Algebra

MA 511/512 - Numerical Analysis I & II

MA 513 - Finite Element Methods

MA 541 - Boundary Value Problems

MA 542 - Integral Equations and Asymptotics

MA 583 - Complex Analysis I

2. *Physics with astronomy specialization*

A total of 48 hours of formal course work is required (in addition to 24 hours of dissertation research). All students must take the following six core physics courses:

Core Courses:

PH 501 - Classical Mechanics

PH 531/532 - Electromagnetic Theory

PH 541/542 - Quantum Mechanics

PH 571 - Kinetic Theory and Statistical Mechanics

Astronomy course requirements: At least 15 hours must be from the following list, with at least one at the 600 level:

AY 501 - Celestial Mechanics & Astrodynamics

AY 521 - Theoretical Astrophysics

AY 533 - Observational Techniques

AY 550 - Stars and Stellar Evolution

AY 570 - Galaxy and Interstellar Medium

AY 620 - Extragalactic Astronomy

AY 640 - Radiation Processes in Astrophysics

AY 650 - Astronomy Special Topics (only 3 hrs can count toward the 15-hr AY requirement)

AY 660 - Astrophysical Plasmas & Magnetodynamics

The completion of any of the above astronomy courses or core physics courses (or the equivalent as approved by the department chairperson) with a grade of "B" (3.0/4.0) or better prior to enrolling as a graduate student in this department will constitute fulfillment of the requirement for that course. (See Section V.)

Astronomy seminar: All full-time astronomy students must register for one hour of AY 597 (Astronomy Seminar) each semester in residence. Seminar requirements include attending weekly astronomy seminars, departmental colloquia, and making presentations, as specified by the student's advisor.

Additional course requirements: Three additional hours will be determined by the advisor in consultation with the student, and the remaining courses can be chosen by the student. Six of the required 48 hours of formal course work may include a combination of AY 597, PH 598, and PH 698. A maximum of 12 of the 48 hours may be taken outside the department.

Some recommended mathematics courses:

MA 500/501 - Mathematical Methods of Physics

MA 510 - Numerical Linear Algebra

MA 511/512 - Numerical Analysis I & II

MA 513 - Finite Element Methods

MA 541 - Boundary Value Problems

MA 542 - Integral Equations and Asymptotics

MA 583 - Complex Analysis I

B. RESEARCH SKILL REQUIREMENT

Prior to being admitted to candidacy for the Ph.D. in physics, a graduate student must satisfy the Department of Physics and Astronomy's computer science research skill requirement. The procedure for establishing an appropriate level of proficiency in

computer science will be determined by the student's faculty advisor or by another faculty member designated by the department chairperson. The Preliminary Exam Committee must certify that the student has achieved proficiency as a condition for admission to candidacy. The Committee's certification will be based on the recommendation of the student's advisor or the faculty designate.

C. QUALIFYING AND PRELIMINARY EXAMINATIONS

There shall be two separate exams which a prospective Ph.D. candidate must pass. The first of these will be given early in the student's career and will cover primarily advanced undergraduate physics; the second exam will be given before the dissertation research is begun and will be more closely related to the student's research area. The first exam is the Qualifying Exam and is a requirement for entering the Ph.D. program. The second exam is the Preliminary Exam; passage of this exam formally admits one to candidacy for the Ph.D.

1. *Qualifying Examination*

The Qualifying Exam will be given each January. Although there is no limit on the number of times a student may take the exam, financial support may be withdrawn if a Ph.D. student does not pass the exam by the end of the student's second year.

The Qualifying Exam will be a written test consisting of four parts: I. Classical Mechanics, II. Electricity and Magnetism, III. Quantum Mechanics, and IV. Mixed Topics (electronics, optics, thermodynamics & statistical mechanics, relativity, and astrophysics). Students wishing to specialize in astronomy are required to answer astrophysics questions in place of electronics in Part IV. The exam will be given on successive days, three hours each day, with each session to cover half the exam. The exam shall be compiled and graded by a committee of at least four faculty members. A score of 70% or above will represent an outright pass, and a score below 60% will be an outright fail. Students receiving a score of 60% - 69% will receive a conditional fail and will be given an

oral exam. If these students do well on the oral exam, then they will pass the exam in its entirety. No oral exam will be required for students scoring 70% or above.

2. *Preliminary Examination*

The Preliminary Exam shall be an oral exam on the student's area of specialization, as well as the basic areas of graduate-level physics, namely PH 501, 531/532, 541/542. The student in consultation with his/her research advisor should form a committee consisting of five faculty members. (The advisor will not be a member of the committee but will be invited to observe the examination.) The committee must be approved by the department chairperson. A form to be used in selecting a committee is given in the appendix. Students without a research advisor will not be allowed to take the exam. The exam should be taken as early as possible once the student has finished the appropriate graduate course work and before commencing actual dissertation research. Financial support may be withdrawn if a student does not pass the Preliminary Exam by the end of the student's fourth year in residence. According to the Graduate Catalog, the foreign language/research skill requirement (computer science) must be passed before this exam is attempted. As mentioned in section III-B, the Preliminary exam must certify proficiency in computer science based on the recommendation of the student's committee advisor or another faculty member designated by the department chairperson.

The Preliminary Exam chairperson should notify the department chairperson in writing of the committee decision after the student attempts the exam. After passing the exam, the Preliminary Exam committee should sign the Application for Admission to Candidacy form (appendix). Only two attempts at the Preliminary Exam are permitted.

D. RESEARCH AND DISSERTATION

1. *Selecting a research area and a research advisor*

The selection of a research area and advisor should be made as soon as possible after the student has passed the Qualifying Examination. The student should first

interview several faculty members whose research may be of interest to the student, and the faculty members will describe potential research projects. The selection of a research area and a research advisor will then be made by agreement between the student and the advisor. As soon as the selection is made, the department chairperson must be notified in writing by both the student and the advisor. If a student and research advisor mutually agree to end their relationship, the student and advisor must both notify the department chairperson in writing of this action. The student must then begin the selection process again. The Department requires that all students doing research toward a degree be supervised by a research advisor approved by the Department. The student must keep his/her advisor fully informed of the progress of his/her research. Failure to do so could result in the dissertation not being approved. At a minimum it is expected that students will report on their research progress at least once a semester, and more frequent reports are highly recommended.

2. *The dissertation committee*

After selection of a research advisor and research area and after passing the preliminary examination, the student, in consultation with his/her advisor and the department chairperson, will form a dissertation committee. The committee will consist of five members, including the research advisor as committee chairperson, three other faculty members from the Department of Physics and Astronomy, and one faculty member of another department. (The external committee member may be from another institution if prior approval is obtained from the Dean of the Graduate School.) Students doing theoretical (experimental) dissertations are advised to have at least one faculty member on the committee who is an experimentalist (theorist). At least one departmental member of the committee should be from an area outside the student's major research concentration. A form to use in selecting the committee is given in the appendix. The student is required to meet with the dissertation committee each semester for assistance in monitoring and guiding the student's research.

3. Final version of the dissertation

A final version of the dissertation will be given to each of the five members of the Dissertation Committee at least two weeks before the oral defense. The student is responsible for all aspects of the production of the dissertation, including the preparation, typing, reproduction, dissemination to the committee members, and all costs involved. Departmental resources cannot be utilized for the production of the dissertation.

4. Oral examination

A final oral examination must be passed after completion of the dissertation. The examination will be primarily on the candidate's research work as embodied in the dissertation, but it may also encompass the complete program for the degree. The examining committee will be the Dissertation Committee previously described.

IV. M.S. DEGREE

A. PLAN I M.S. IN PHYSICS (THESIS OPTION)

1. Course requirements

A total of 24 hours of formal course work is required (in addition to six hours of research).

Required courses in physics:

PH 501 - Classical Mechanics

PH 531/532 - Electromagnetic Theory

PH 541/542 - Quantum Mechanics

PH 599 - Thesis Research (6 hours)

Other required courses: Full-time physics students must register for one hour of PH 597 (Physics Seminar) each semester in residence. Seminar requirements are the same as for the Ph.D. degree. Nine hours of additional graduate level course work which must be approved by the Department is required in order to meet the minimum of 24

hours. PH 597 and PH 598 cannot count toward the 24-hour requirement. Six of these hours may be taken outside the Department. Some approved mathematics courses are listed below.

MA 500/501 - Mathematical Methods of Physics

MA 510 - Numerical Linear Algebra

MA 511/512 - Numerical Analysis I & II

MA 513 - Finite Element Methods

MA 541 - Boundary Value Problems

MA 542 - Integral Equations and Asymptotics

MA 583 - Complex Analysis I

2. Selecting a research area and a research advisor

A student should first interview several faculty members whose research may be of interest to the student, and the faculty members will describe potential research projects. The selection of a research area and a research advisor will then be made by agreement between the student and the advisor. As soon as the selection is made, the Department chairperson should be notified of the decision in writing by both the student and the advisor. The selection should be done before or during the second semester of graduate study. The department chairperson must also be notified in writing of any change of research advisor.

3. The thesis committee

After selection of a research advisor and research area, the student, in consultation with his/her advisor and Department chairperson, will form a thesis committee. The committee will consist of at least three members, including the research advisor as committee chairperson, one other faculty member from the Department of Physics and Astronomy, and one faculty member from another department. (The external committee member may be from another institution if prior approval is obtained

from the Graduate Dean.) A form to use in selecting the committee is given in the appendix.

4. *The final version of the thesis*

A final version of the thesis will be given to each of the members of the Dissertation Committee at least two weeks before the oral defense. The student is expected to be responsible for all aspects of the production of the thesis, including the preparation, typing, reproduction, dissemination to the committee members, and all costs involved. Departmental resources cannot be utilized for the production of the thesis.

5. *Oral examination*

A final oral examination must be passed after completion of the thesis. The examination will be both a comprehensive examination on the masters degree program as well as an examination of the candidate's research work as embodied in the thesis. The examining committee will be the Thesis Committee previously described. The student may take the oral examination no more than twice.

B. PLAN I M.S. IN PHYSICS WITH ASTRONOMY SPECIALIZATION (THESIS OPTION)

1. *Course requirements*

A total of 24 hours of formal graduate course work is required (in addition to six hours of thesis research).

Physics course requirement:

PH 501 - Classical Mechanics

PH 531 - Electromagnetic Theory

PH 541 - Quantum Mechanics

PH 599 - Thesis Research (6 hours)

Astronomy course requirement:

At least three of the following:

AY 501 - Celestial Mechanics and Astrodynamics

AY 521 - Theoretical Astrophysics

AY 533 - Observational Techniques

AY 550 - Stars and Stellar Evolution

AY 570 - Galaxy and Interstellar Medium

AY 620 - Extragalactic Astronomy

In addition to the above physics and astronomy courses, full-time astronomy students should enroll for AY 597 (one hour of seminar) each semester in residence. PH 597 and PH 598 cannot count toward the 24-hour course requirement.

Six hours of additional graduate level course work which must be approved by the Department is required. It is strongly suggested that students without appropriate background in mathematics take these courses from the following:

MA 500/501 - Mathematical Methods of Physics

MA 510 - Numerical Linear Algebra

MA 511/512 - Numerical Analysis I & II

MA 513 - Finite Element Methods

MA 541 - Boundary Value Problems

MA 542 - Integral Equations and Asymptotics

MA 583 - Complex Analysis I

2. *Research and thesis*

The general rules concerning research and the thesis that apply to the Plan I M.S. in physics also apply to the Plan I M.S. in physics with astronomy specialization.

C. PLAN II M.S. IN PHYSICS (NON-THESIS OPTION)

1. Course requirements

A total of 30 hours of formal course work is required. The course requirement is the same as for the Plan I M.S. degree except that in place of PH 599 (Thesis Research) the student will take two of the following courses:

PH 551 - Atomic and Molecular Physics

PH 561 - Nuclear and Particle Physics

PH 571 - Kinetic Theory and Statistical Mechanics

PH 581 - Solid State Physics

2. Oral examination

A comprehensive oral examination on the degree content of the Plan II M.S. program must be passed during the last semester of study. The committee will consist of at least three members of the Department to be chosen by the department chairperson in consultation with the student. The student may take the oral examination no more than twice.

D. PLAN II M.S. IN PHYSICS WITH ASTRONOMY SPECIALIZATION (NON-THESIS OPTION)

1. Course requirements

A total of 30 hours of formal graduate course work is required. The course requirements are the same as for the Plan I M.S. in physics with astronomy specialization except that in place of PH 599 (Thesis Research) the student will take PH 532 (Electromagnetic Theory) and PH 542 (Quantum Mechanics).

2. Oral examination

The student must pass an oral examination as described under the Plan II M.S. in physics described in part C.2 above.

V. TRANSFER CREDIT

Students are allowed to apply for transfer of graduate credit earned at another institution. In order for a course to be considered for transfer credit, the student must have earned a minimum grade of "B" on the course. In addition, the student must have achieved an overall average of "B" or better on all courses attempted at the institution from which transfer credit is being requested. The Graduate School must have an official transcript of the credit involved. Up to 1/2 of the required course work for a Ph.D. or M.S. degree is allowed with the approval of the department and the dean of the Graduate School. All credit toward the master's degree must have been earned during the six years immediately preceding the date on which the degree is awarded. All credit toward the Ph.D. degree must have been earned during the six-year period preceding admission to the doctoral program. A form is included in the appendix for submission to the Graduate School in applying for transfer credit.

APPENDIX

CHECKLIST FOR MONITORING PROGRESS TOWARD THE PH.D DEGREE

<u>Requirement</u>	<u>When</u>
Qualifying exam	At the beginning of the 2nd semester. Must be passed by the end of the 4th semester to insure continuing financial support.
Computer science research Skill	4th or 5th semester. Must be satisfied before Prelim and verified by the Prelim Committee.
Selection of research advisor	During 2nd or 3rd year.
Preliminary exam	During 7th semester. Form on p. B-1 for choosing committee. Must be passed by end of 8th semester to insure continuing financial support.
Selection of dissertation committee	After passing preliminary exam. Sample form on p.B-2
Meet with dissertation committee.	At least once each semester.
Application for admission candidacy	No later than the semester or summer term in which requirements are to be completed. Sample for on p.B-3
Application for advanced degree	No later than the registration period for the semester or summer term in which the requirements are to be completed. Sample form on p.B-6.
Submit dissertation title card	At least 6 weeks before graduation. Sample form on p.B-7.
Schedule oral defense	During last semester.
Submit dissertation to committee.	At least two weeks before defense.

Requirement

Get dissertation approval forms signed by dissertation committee

Submit report of recommendation for final degree.

Submit dissertation to Graduate School

When

Immediately after passing the defense. Sample form on p.B-8

To be submitted by Research Advisor to Graduate School following oral defense. Sample form on p. B-10

After oral defense and at least 6 weeks before graduation.

CHECKLIST FOR MONITORING PROGRESS TOWARD THE PLAN 1 M.S. DEGREE

<u>Requirement</u>	<u>When</u>
Selection of research advisor	During 2nd semester
Selection of thesis committee	During 2nd or 3rd semester. Form on p.B-2
Application for Admission to Candidacy	After 12 semester hours of graduate credit at the University have been received. Approval must be obtained no later than the registration period for the semester in which the requirements are to be completed. Sample form on p.B-5
Application for Advanced Degree	No later than the registration period for the semester or summer term in which the requirements are to be completed. Sample form on p.B-6
Submit thesis title card	At least 6 weeks before graduation. Sample form on p.B-7
Schedule oral defense	During last semester
Submit thesis to committee	At least 2 weeks before oral
Get thesis/dissertation approval form signed by thesis committee	Immediately after passing the oral exam. Sample form on p.B-9
Submit report of recommendation for final degree.	To be submitted by Research Advisor to Graduate School following oral exam. Sample form on p.B-10
Submit thesis to Graduate School	After oral exam and at least 6 weeks before graduation

CHECKLIST FOR MONITORING PROGRESS TOWARD THE PLAN 2 M.S. DEGREE

<u>Requirement</u>	<u>When</u>
Application for Admission to Candidacy	After 12 semester hours of graduate credit at the University have been received. Approval must be obtained no later than the registration period for the semester in which the requirements are to be completed. Sample form on p. B-5
Application for Advanced Degree	No later than the registration period for the semester or summer term in which the requirements are to be completed. Sample form on p.B-6
Schedule oral exam	At least two weeks before graduation
Submit report of recommendation for final degree	To be submitted by chairperson of oral committee following oral exam. Sample form on p.B-10

THE UNIVERSITY OF ALABAMA
Department of Physics and Astronomy

MEMORANDUM

TO: Chairperson, Department of Physics and Astronomy

FROM: _____, Graduate Student
(Please print clearly)

SUBJECT: PETITION FOR APPROVAL OF DISSERTATION/THESIS COMMITTEE

DATE: _____

NAME (signature), Research Advisor, Chair

Date

NAME (signature)

Date

Student's signature: _____

FORM TO BE COMPLETED BY STUDENT ONLY DOWN TO THIS LINE

APPROVED BY: _____
Research Advisor's signature

Date

Department Chairperson's signature

Date

Distrib.: Original to student's file; student; Committee members

Submit in quadruplicate
to department

THE GRADUATE SCHOOL
The University of Alabama

PUBLIC
____ ADMINISTRATION
____ MUSICAL ARTS
____ EDUCATION
____ PHILOSOPHY
____ SOCIAL WORK

APPLICATION FOR ADMISSION TO CANDIDACY FOR THE DEGREE OF DOCTOR OF

Name _____ Social Security # _____

Mailing Address _____ Date _____

I hereby petition the Graduate Dean to be admitted to candidacy for the degree of Doctor of _____ Education _____ Philosophy
_____ Social Welfare.

Dates of Passing Qualifying Examinations
Written **Oral**

Major Subject _____

First Minor Subject _____

Second Minor Subject _____

First Foreign Language _____ Examination Passed _____

Second Language or Substitute _____ Examination Passed _____

Dissertation Subject _____

I hold the following degrees:

_____ granted by _____ 19____

_____ granted by _____ 19____

(Signature of Candidate)

SUPERVISORY COMMITTEE: We, the undersigned, certify that the above named candidate has passed his/her qualifying examination for the degree of Doctor of _____ Education _____ Philosophy _____ Social Welfare. We approve the Dissertation Subject. We recommend the applicant to the Graduate Dean for admission to candidacy for the degree.

Chairperson

We, the undersigned, record our dissenting vote:

Dean of
College

Approved by
Graduate Dean: _____

Date of Approval _____

Instructions on filling out the Application for Admission to Candidacy for the Degree of Doctor of Philosophy.

1. Major subject is physics; there is no minor subject.
2. "Qualifying Exam" on this form is the same as our "Preliminary Exam". Enter date of Prelim exam under "Dates of Passing Qualifying Examinations" (Oral).
3. Include "Research skill (computer science) after "First Foreign Language" and date of Prelim after "Examination Passed" (The Prelim committee must certify proficiency in computer skills based on the recommendation of the student's research advisor or his designate.)
4. This form should be signed by the Preliminary Exam committee ("Supervisory Committee") who certifies that the student has passed the Preliminary Exam (called "qualifying examination" on this form). "Chairperson" refers to chairperson of Prelim committee, not dissertation advisor.

Signatures of Department Head and Academic Dean must be obtained before submitting forms to the Graduate School.

(Submit in quadruplicate to department)

APPLICATION FOR ADMISSION TO CANDIDACY FOR THE MASTER'S DEGREE

_____	_____	_____	_____
Last Name	First Name	Middle Name	
Mailing Address _____			Social Security No. _____
Department _____	Major _____	Grad. study begun at U. of A. _____	Mo. & Yr. _____
Bachelor's degree received from _____			Mo. & Yr. _____
Required foreign language test in _____ passed on _____			Mo. & Yr. _____

The following undergraduate deficiencies have been removed:

Course Number and Title	Grade	Sem. Hrs.
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Total graduate credit earned at The U. of A.: _____ semester hrs. Quality points: _____

I hereby petition the Dean of the Graduate School for admission to candidacy for the degree of _____
_____ under Plan _____

Thesis subject, if Plan I, _____

Signature of Applicant _____ Date _____

This application should be filed after 12 semester hours of graduate credit have been earned at The University of Alabama. All prerequisites and foreign language requirement, if applicable, must also be satisfied.

Since the above named student has met the requirements for admission to candidacy for the master's degree, the

_____ Department or School
recommends that this application be approved.

_____	Head of Department	Date _____
_____	Dean of School	Date _____
_____	Dean of Graduate School	Date _____

Graduate School Distribution: Adm & Records _____ Grad. Ofc. _____
 Dept. or Div. _____ Applicant _____
 GS-3/90

THE UNIVERSITY OF ALABAMA

Application for Degree

[] Mr. [] Miss
 [] Mrs. [] Ms.

PRINT YOUR LEGAL NAME ABOVE AS IT SHOULD APPEAR ON YOUR DIPLOMA.

Student Number _____ Date Application Filed _____

Degree for which you are applying _____

Diplomas and degrees are awarded three times a year. Indicate which month you expect your degree to be awarded. December [] May [] August [], 19____.

According to my understanding, I now need _____ quality points and _____ semester hours including the following courses:

Required and Elective Courses				Transfer or Correspondence Courses		Incompletes to be Removed	
Course	Hours	Course	Hours	Course	Hours	Course	Hours

Major/Program _____
 Concentration _____
 Major/Program _____
 Concentration _____
 Minor _____ Minor _____
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_____ School/College Dean/Representative	
_____ Department Head, Graduate Only	
School/College	Date
Requirements Completed _____	
_____ School/College Representative/Department Head (GR)	
No designation	[]
With distinction	[]
cum laude	[]
magna cum laude	[]
summa cum laude	[]
University Honors Program	[]

DISSERTATION / THESIS TITLE CARD

Mr. _____
Mrs. _____
Ms. _____

Major, _____

Title _____

Approved _____

_____ Professor in Charge

_____ Head of Department

Date _____

Submitted by _____ in partial fulfillment of the requirements for the degree of Doctor of Philosophy specializing in Physics.

Accepted on behalf of the Faculty of the Graduate School by the Dissertation committee:

J.W. Harrell, Jr., Department Chairperson

Date

Ronald W. Rogers, Dean

Date

Submitted by _____ in partial fulfillment of the requirements for the degree of Master of Science specializing in Physics.

Accepted on behalf of the faculty of the Graduate School by the thesis committee:

- 1 copy for Grad School
- 1 for dept. to keep.

to be submitted
immediately after defense
(even if dis. not
yet ready)

arrell, Jr., Department Chairperson

ald Rogers, Dean

**GRADUATE SCHOOL
THE UNIVERSITY OF ALABAMA
TUSCALOOSA, AL**

TO THE DEAN OF THE GRADUATE SCHOOL:

We, the undersigned, report that as a committee we have examined

NAME: _____ **STUDENT NUMBER** _____

upon the work done in the subject assigned namely:

Major _____

Dissertation/Thesis _____

and find that h___ attainments (are such) (are not such) the ___he may be recommended

for the degree of _____

I dissent from the foregoing report:

DATE: _____

**REQUEST FOR TRANSFER OF GRADUATE CREDIT
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(Submit to Graduate School Office, 102 Rose Admin. Bldg.)

Last Name First Name Middle Name U of A Student Number

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1. _____ Date Credit Earned _____

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3. _____ Date Credit Earned _____

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Tuscaloosa, AL 35487-0118

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Are you presently enrolled? _____ If not, give last date enrolled. _____

Degree toward which you are working _____

Major department _____

Date _____

Local phone number _____