

Graduate Student Handbook

2022-2023

**Department of
Physics & Astronomy**

The University of Toledo

First Version

Each student is required to file a Progress Report with the Department by early February. This will include meeting with your advisor and/or your thesis committee to discuss your progress, what hurdles you need to overcome, and if you are following your graduation timeline, then obtaining their signatures afterwards. This form may be found at the end of this handbook.

As a graduate student, you must maintain a GPA of 3.0 or higher at all times. Should you fall below this standard, you will be placed on academic probation. Failure to be removed from academic probation within one semester can result in loss of your assistantship and removal from the graduate program. All classes reported on your Plan of Study form must have a grade of "C" or better. The Graduate School considers grades of "C-" or less unacceptable. There is no academic forgiveness policy for retaking to delete lower grades.

<https://www.utoledo.edu/graduate/currentstudents/graduateassistants/employmentoutsideofassist.html>

Registering for classes can be done online at myut.utoledo.edu (specifically <https://banxe.utoledo.edu/StudentRegistrationSsb/ssb/registration>). Follow your plan of study or your offer letter. If there are any complications, contact your advisor or Lisa Selmek in the Department Office. Make sure this is completed by the required dates each semester, which will often be sent out by one of the administrators.

Students in the M.S. program that wish to change to the Ph.D. program or vice versa must submit a formal application online prior to the deadline for outside applications (see link at the end of the paragraph). In addition to the information required of all applicants, the student must state clearly their

If you need to make photocopies for your students, you may use the photocopier in the department office. Should you require more than 25 copies, fill out a copy request form in the office and give Lisa 24 hours notice. If you have an “emergency”, ASK. Lisa or a student worker may be able to run copies on the copier.

For printing, there are printers in various places on campus, including the PandA lounge, Ritter 2nd floor, and McMaster 4th floor computer lab.

Currently, the departmental administrators are Lori Burkholder and Lisa Selmek, and their offices

Rick Irving is in charge of the Physics and Astronomy Department's many computer and IT resources. If you need account access for printing, internet, or getting various licenses for software, he is often the person that can help you or point you in the right direction. This makes him incredibly busy, so be respectful of his time by spending 10 minutes checking with your advisor and/or searching the university IT help desk site (<https://www.utoledo.edu/it/CS/HelpDesk.html>) before going to him.

There are several public computer clusters that serve the entire campus. Including one in McMaster on the 4th floor with a printer. You may need your Rocket Card and/or a UTAD account in order to use these facilities. An individual UTAD account ca

other resources, which can be found at the Mulford Library. Mulford Library's phone number is 419-383-4225 and it is located at 3045 Arlington Ave.

There is a shuttle service available on campus as well. For schedules and fare information call the Transit Services Office at Ext. 1026, or visit their website at <http://www.utoledo.edu/facilities/transit/>.

student's performance on the written examination has no bearing on whether or not they pass the oral examination and vice versa. In any given attempt at the Qualifying Examination, the student can pass both parts, fail both parts or pass one part but not the other.

Graduate students must pass both the written and oral parts of the Ph.D. Qualifying Examination no later than their fourth semester in our program. Students are expected to take the Qualifying Examination during the fall semester of their second full academic year. Students who do not pass both parts of the examination at that time are advised to either pursue a terminal M.S. degree or to take the Qualifying Examination (for the last time) during the spring semester of their second full academic year (see also section on exam timing on p. 13).

Written Exam

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Oral Exam

The oral exam is administered separately for each individual student by a committee of three faculty, lasting approximately 1 hour. It covers a wider range of topics in physics and astronomy. It is used to determine a student's strengths and weaknesses and assess their ability to think and respond like scientists in a logical manner. Concepts are often expected to be explained in a purely qualitative, semi-quantitative, and/or semi-empirical manner. The oral exam normally starts with a self-introduction in which the student is asked to briefly describe any prior research experience and its related physics. The committee members typically then ask the student questions related to that introductory part as well as more general questions to explore the student's understanding of physics. It is expected that the student will be able to write on a black- or white- board to answer questions.

Exam Timing

The written exam is offered each fall and spring semester, with the oral exam being offered during the following few weeks. Each portion of the qualifying exam must be passed within the first two years of entry for those beginning in the fall semester. The exams may be attempted:

0. The "zeroth" attempt may be taken the first fall semester after entry. Though this attempt is not required, all entering students are strongly encouraged to take benefit of this opportunity to pass.
1. One year after entry
2. The following January, a year and a semester after entry.

Notes:

For students who enter the program in January, this policy's timetable starts the following fall. In that case, therefore, the zeroth attempt takes place the fall semester after entry. The zeroth and first attempts may not be made in January, except by students who entered the program with previous post-bachelors level academic experience in physics. With their advisor's approval, they may accelerate the standard timetable above.

Students are not required to take both the written and the oral part on the first attempt. However, both parts must be passed within a year and a semester after the student's first

who then decide if any adjustments or additional work are required. Once the committee is satisfied with the student's plan of action, the comprehensive exam is complete. The student will then have their advisor email the main physics office about their successful comprehensive and that will be the last step. There is no official paperwork to be filled out other than informing the main office of your completion.

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After the student completes the Comprehensive Examination, only the dissertation research and defense requirements remain. The graduate program ends with the presentation of the dissertation and its satisfactory defense in the oral defense examination.

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The student will provide a copy of their dissertation to their Ph.D. committee no later than one week before the scheduled public defense. Please note that, up until the dissertation defense, the student's Ph.D. committee typically consists of the student's advisor as well as 3 additional faculty members from the department. However, for the Ph.D. defense an additional external committee member is required. The external committee member can be either a faculty member in another department at UToledo or a faculty member at another institution. In the latter case, **the external committee member needs to become a Special Faculty Member of UToledo**. They will need to fill out and submit their CV and the Graduate Faculty Membership Application which can be found on this page with instructions as well: <http://www.utoledo.edu/graduate/facultystaff/>. (The form itself can be found here <https://www.utoledo.edu/graduate/facultystaff/gradcouncil/docs/GradFacultyMembershipApp1.pdf>)

Oral Defense of the Ph.D. Dissertation:

The student will present and defend their dissertation in a public defense and answer questions from any member of the audience. (This part of the defense is expected to last roughly 45 minutes.) After the public portion of the defense is concluded, the public is excused from the room. The Ph.D. committee members will question the student about any aspect of the dissertation.

At the end of the examination period, the student's thesis committee asks the student to leave the room to enable conference among the committee members. The committee then provides feedback on whether the student has passed, and what additional measures are required to satisfy the research and dissertation requirement.

The College of Graduate Studies website (<http://www.utoledo.edu/graduate/currentstudents/>) has all the information you need to setup for your defense and graduate, but useful forms and instructions are spread out over several different pages.

M.S. DEGREE REQUIREMENTS

For a degree of M.S. a student must complete at least 30 hours of graduate credit with specific stipulations as mentioned in the catalog. The degree has two options: (i) with a thesis and (ii) without a thesis. The thesis option involves at least 6 credits of research conducted under supervision of a thesis advisor. A thesis written and defended by the student in front of a committee of faculty members is necessary for this option to be completed. In addition to the required coursework, in the non-thesis option, a student must prepare a project report based either on literature research or independent research or a combination thereof, conducted under the supervision of the student's project advisor or co-advisors. The report should be prepared in accordance with the format specified by the advisory committee and the student should present an oral defense of the project results.

REQUIREMENTS FOR THE MASTER'S DEGREE

For the master of science or master of science and education, a student must complete 30 hours of graduate credit that includes the following:

1. [PHYS 6140](#) and an additional 15 hours of graduate course credit in physics, with six of the 15 hours numbered above 6000. Credit in [PHYS 5900](#), [PHYS 6010](#) and/or [PHYS 6020](#) will not count toward either degree.
2. The student must present a satisfactory thesis based on directed research, for no more than eight credit hours.
- 3.

M.S. IN PHYSICS WITH INTENSIVE COURSEWORK OPTION

1. For the coursework intensive M.S. in Physics the student must complete at least 30 hours of graduate credit including the following:
2. At least 24 hours of graduate course credit in physics, with at least 12 of the 24 hours numbered above 6000 (no degree credit for PHYS5900, PHYS6010, or PHYS6020). No more than 6 hours of graduate research course credit may count towards the 24 hours.
3. In addition to the required coursework, a student must prepare a project report based



This program does not lead to a teaching license. Students interested in licensure should apply to one of the Licensure and Master's Programs (LAMP). The MSE is a 36 semester hour program. Students take courses in curriculum and instruction along with courses selected with a physics faculty adviser. The program culminates with a theory and research course and the completion of a master's research seminar, research-based project, or thesis depending on the student's interest. Coursework is completed through a combination of on-campus, online, and field-based courses.

For the Master of Science and Education degree, students must complete the following program requirements:

A minimum of 36 semester hours of approved graduate course work

An area of specialization in curriculum and instruction of a minimum of 12 semester hours with courses pre-approved by the faculty advisor

An area of specialization in Physics of a minimum of 15 semester hours with courses pre-approved by the faculty advisor

A course to complete the specialization in curriculum and instruction or Physics

A course in theory and research

A thesis, project, or research seminar

In addition, no more than six semester hours of credit from any combination of workshops (5950), problems or special topics courses (5980 or 6980), and independent studies (5990 or 6990) may be included in the degree program.

All coursework and requirements of the master's degree must be taken within a six-year period immediately preceding the date the degree is awarded.

A plan of study identifying the courses for the master's degree is required after 12 credit hours, generally at the end of the first semester of full-time study. The master's plan of study must include the following within the 36-semester hour minimum:

12 credits of specialization in curriculum and instruction

15 credits of specialization in Physics

3 credits in curriculum and instruction or Physics

3 credits of theory and research

3 credits of thesis, project, or research seminar

Ph. D. Degree Requirements

The doctoral degree in physics is awarded to a student who has demonstrated mastery in the field of physics and a distinct and superior ability to make substantial contributions to the field. The quality of work and the resourcefulness of the student must be such that the faculty can expect a continuing effort toward the advancement of knowledge and significant achievement in research and related activities. Publication of research in peer-reviewed journals is expected. The doctoral degree in p

2022 - 2023 ANNUAL GRADUATE STUDENT PROGRESS REPORT

Name _____ Date Reporting _____

Degree _____ M.S. _____ Ph.D. Adviser _____

_____ Date entering UT Physics Graduate Program

_____ Date of taking Qualifier _____ Date of Passing Qualifier

_____ Date of M.S. (Past or Anticipated)*

_____ Date of Comprehensive** _____ Date of Passing Comprehensive

_____ Date of Ph.D. (Anticipated)*

*Note that the M.S. must be completed within 6 years (the Ph.D. within 7 years) after beginning coursework.

**Must be taken within 2 years (counted until the end of the semester of the first attempt of the Qualifying Exam).

Comments on progress toward completing courses required for degree:

Comments on research activities (include any publications, conferences, professional memberships, etc.):

Comments on teaching activities:

