

Graduate Student Handbook

Department of
Physics & Astronomy

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Department Directory

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Key Offices at KU

Your unit's Director of Graduate Studies or COGA Advisor is your first stop for any questions related to graduate study or requirements. If you would like to research an issue in advance of speaking with your department or if you still have questions, the following offices can provide assistance:

[College Office of Graduate Affairs \(COGA\)](#)

COGA oversees graduate affairs and administers University policy for programs within the College of Liberal Arts and Sciences. The COGA website contains comprehensive information on requirements and processes pertaining to graduate education at KU. Most common questions can be answered with the information provided there, including questions regarding [enrollment changes or forms](#), University policies regarding [exams](#) and committee requirements, and University [graduation](#) requirements. The College of Liberal Arts & Sciences' [Master's Hooding Ceremony](#) is coordinated by COGA.

COGA reviews all [student petitions](#) of University and College policy, issuing decisions on behalf of the College or referring as required to a faculty committee and/or the Office of Graduate Studies. The more common student petitions relate to enrollment, graduate credit, leave of absence, and time limit extensions.

COGA is a resource if you have questions about petitions or graduation requirements that your department is unable to answer. Refer to the COGA website for current staff contact information.

[Office of Graduate Studies](#)

Graduate Studies is the office of the Dean of Graduate Studies at KU. The Executive Council of Graduate Studies sets policies and regulations governing graduate study, and offers various programs for graduate students throughout the year. While COGA should be your first stop for any questions your department cannot answer, you may be referred to Graduate Studies for certain matters, especially for questions about [GTA/GRA/GA appointments and policies](#). The University's [Doctoral Hooding Ceremony](#) is coordinated by Graduate Studies.

[Graduate Admissions](#)

Contact Graduate Admissions for questions regarding KU Online Application for Graduate Study, Slate system, English proficiency requirements, and official transcripts.

[Office of the University Registrar \(OUR\)](#)

Contact OUR for questions related to enrollment (if the question cannot be resolved via the enrollment changes link provided above under COGA), tuition, campus fees, the Academic Calendar, and fee petitions.

[Financial Aid](#)

Contact Financial Aid for questions related to the disbursement of scholarships, fellowship award, loans, and FAFSA.

[International Student Services \(ISS\)](#)

Contact ISS for questions related to international students, including enrollment requirements, international student insurance, obtaining a social security card, I-20 questions, and any issue related to student visas. While other offices on campus such as the AEC, Human Resources, or the Registrar may also handle related matters, because the students' legal status in the country may be affected, it is recommended that students contact ISS first.

[Center for Teaching Excellence \(CTE\)](#)

The Center for Teaching Excellence (CTE) is a University office dedicated to assisting instructors, including GTAs, to develop effective instructional techniques. The expert staff of CTE can introduce instructors to the pedagogical technology available at the University and help instructors develop new approaches to teaching. CTE specialists work with instructors individually, and also offer a diverse array of workshops and discussions. They also can guide instructors to useful scholarly literature on the subject of college teaching and learning.

Further Information and Additional Resources

The University of Kansas is committed to creating a welcoming and supportive environment on campus. The Office of Institutional Opportunity and Access (IOA) is responsible for administering the University of Kansas equal opportunity and non-discrimination policies and procedures, as well as, encouraging a campus climate of respect and understanding of all aspects of the human experience. For more information, see the webpage for [IOA](#).

Additional information about other associated policies and procedures can be found in the [university's policy library](#).

The policy library also has specific codes of conduct for students and faculty.

For information on violation of University Policies and the procedure for filing a complaint, please visit the [IOA complaint process](#) website.

The University Ombuds office is a safe place where members of the University of Kansas community can seek informal, independent, confidential and impartial assistance in addressing conflicts, disputes, or complaints on an informal basis without fear of retaliation or judgment. Please visit the [Ombuds](#) website to learn more.

The University of Kansas prohibits discrimination on the basis of race, color, ethnicity, religion, sex, national origin, age, ancestry, disability, status as a veteran, sexual orientation, marital status, parental status, gender identity, gender expression, and genetic information in the university's programs and activities. Retaliation is also prohibited by university policy.

General Department Policies & Procedures

Admissions

Applications for the Graduate Program in the Department of Physics and Astronomy at KU are made through the Office of Graduate Studies. The department typically releases their first round of offer letters around the beginning of January. Individuals that receive an offer have until the CGS national deadline of April 15th to accept or decline the offer. After April 15th the admissions committee will revisit availability and determine if a second round of offers can be made.

All students admitted to the MS, MS/PhD, or PhD program must meet the University's [requirements for regular admission](#).

Deadlines

To ensure full consideration, applicants should apply before the application submission date. Letters of recommendation should be submitted before the application deadline. Incomplete or late applications may not be considered.

- Submission date for Spring admission is October 1st
- Submission date for Fall admission is December 15th

Application Materials & Procedures

Applicants should submit all documents specified below at the time of application submission. Additional materials provided after the online application process (by email or post) will not be considered. The department will review only complete applications.

- **Transcripts** A scanned version of the transcript from your undergraduate and any post-Bachelor institution(s). If admitted, you will be required to submit official transcripts by the end of your first semester at KU to avoid having a hold placed on your student account. Review the KU Transcript requirement for more information, especially for International Applicants who may need to provide additional documentation.
- **Statement of Purpose** A single document also including: academic interests and professional goals.
- **Resume or Curriculum Vitae**
- **Recommendations.** You will be asked for the names and email addresses of three people who can write a recommendation letter describing your qualifications for graduate school in physics and astronomy. Once you submit the application, an email will be sent to each recommender requesting a letter and electronic survey from each person that you name.
- **GRE Scores are not required.** A scanned version of your score report is acceptable for review.

- **GRE Subject Score (Physics) are not required.** If you choose to submit your score, a scanned version of your score report is acceptable for review. Admitted students who take the GRE and achieve a score of 650 or higher will be exempt from taking the Department's Diagnostic Exam during Orientation

Note: If you choose to take the GRE and/or GRE Subject Examinations, you will be asked to choose an "Intended Graduate Major" code. There are about 10 different codes to choose from. To ensure that your scores are sent to our Department, please choose "Physics – 0808".

ETS Codes for submitting original GRE Score Reports:

Institution: 6871

Department: 0808

Non-native English Speakers

The Office of Graduate Studies requires applicants, international or domestic, whose native language is not English to demonstrate English proficiency. See "Admissions" under the University Requirements and Policies section of this document for more information regarding the University's requirements for providing proof of English proficiency.

Provisional Admission

The department does not offer provisional admission.

Admissions Contact Information

Please contact the COGA Coordinator for all admission related questions. Many students also reach out directly to faculty about research interests and GRA availability. Please visit the department website for a [faculty directory](#) and their research background.

APS Bridge Program

The Department of Physics & Astronomy at the University of Kansas (KU) is honored to be an [APS Bridge Program Partnership site](#). We are a medium sized department, approximately 30 faculty and approximately 70 graduate students, and offer a diverse range of research areas including: Astrobiophysics, Astronomy/Astrophysics, Astroparticle Physics, Biophysics, Condensed Matter Physics, Cosmology, Nanofabrication, Nanotechnology, Nonlinear and Chaotic Dynamics, Nuclear Physics, Particle Physics, Particle Theory, Physics Education Research, Plasma Astrophysics, Quantum Computing, and Space Physics.

Bridge applicants who are admitted into the program become members of our normal graduate program. They will be funded either by a research stipend or by a graduate teaching assistantship (GTA) with tuition waived for both. Students will go through a comprehensive pedagogy training session to help prepare for their teaching assignment and we offer students the chance to take a class on proposal writing to enhance their chances of obtaining external funding. Along with this, students will be able to take undergraduate coursework when necessary as determined by the student and the department graduate advisor. The department also offers a problem solving course to support students with their coursework.

Students are encouraged to partake early in research activities. We also have multiple professional development activities that prepare students for careers both inside and outside of academia. Students will have access to peer mentors, a variety of department led student development activities, organizations, and more. Multiple faculty are deeply involved with our graduate students, giving them many contacts with professors right off the bat and improving their integration into the program.

Information for all degree seeking students

The following are general guidelines for the department.

Applying for Course Waivers and Substitutions

In general, non-elective courses can be petitioned for substitution by submitting this [form](#) to the Graduate Coordinator. Course waivers are considered only for classes in which the student has earned a grade of B+ or higher. Please note that courses cannot be substituted for the elective requirement.

Awards

GTA Awards

Near the end of the academic year, three outstanding teaching assistants are selected and are given a monetary award in honor of Emery E. Slossen. Awardees are restricted to those GTAs who have held at least quarter time appointments during both semesters of the current academic year. The Director of Laboratories is the lead decision-maker when selecting honorees and conducts thorough evaluations of all eligible candidates throughout the academic year. Evaluations shall be on the basis of:

- preparation for teaching assignments
- quality of grading and recording
- effective presentation of the material
- assisting students patiently and pleasantly

Strong consideration shall be given to performance beyond the call of duty.

Graduate Travel Fund

The department has a pool of funds set aside to help Physics & Astronomy graduate students travel to conferences and summer schools. To apply for the funds (up to \$750) please fill out the form located [here](#). Applications are reviewed by a sub-committee of the graduate committee at the beginning of each month. Early applications are strongly encouraged.

Policy on Departmental Travel Award for Graduate Students (Revised April 2019)

1. Eligibility

Students are eligible to apply if they are full time degree-seeking graduate students, who have passed the comprehensive exam before the targeted travel date. Based on availability of funds, the awards can be given to all graduate students in good standing. Students can apply as often as needed. However, preference will be given to students who have not traveled using funds from this award within 18 months before the targeted travel date.

The award supports a trip to either a conference or a school related to the dissertation research. The student must give a presentation related to the dissertation research if attending a conference.

2. Award Information

Each award is up to \$750. Eleven awards are expected to be made in each academic year. Unused funds in a calendar year will be added to the next academic year.

3. Application

Eligible students should submit an application including a half-page description of the conference/school, estimated cost of the entire trip, plans for additional source of support (if greater than \$750), and how the trip benefits the dissertation research. For a conference trip, the applicant is required to submit evidence that an abstract has been submitted or an invitation has been received. For both conference and school trips, a letter of support from the advisor is required. Applications should be submitted to the Graduate Coordinator.

Students are encouraged to submit an application once an abstract has been submitted to a conference; however, an award will be issued only if the abstract was accepted for a presentation.

4. Evaluation

Applications will be evaluated monthly by a committee formed by selected members of the Graduate Committee.

5. Future revision reserved

The Graduate Committee will review this policy yearly for necessary adjustments.

Scholarships & Fellowships

The department has access to a few scholarships and fellowships. Calls for these will be sent via email by the department. The university also has a [summer research scholarship](#), and the department will solicit calls for nominations.

Committees & Organizations

Departmental Assembly

The Departmental Assembly is the constituted body for full departmental meetings. The Department provides for the inclusion of regularly enrolled students in both its Departmental Assembly and its policy-making committees. The number of students in each body is at least 20 percent of the number of faculty members who hold the rank of instructor or above and who serve on that body. The Departmental Assembly is comprised of the entire faculty, plus student members of the Committees on Graduate Studies and Undergraduate Studies.

Graduate Committee

This committee comprises seven faculty members appointed by the department chairperson and two current graduate students. This committee handles graduate student petitions and reviews the program and student progress.

Society of Physics Students and Sigma Pi Sigma

The Society of Physics Students (SPS) is open to all persons with an interest in physics. Sigma Pi Sigma is the physics honors society within SPS with scholastic requirements for membership. SPS is a member society of the American Institute of Physics. This organization elects its own officers and also nominates the student representatives (both graduate and undergraduate) to the Departmental Assembly.

Graduate Student Organization

The Physics & Astronomy Department Graduate Student Organization (GSO) is led by a group of graduate students within the department. They organize events, discuss graduate student related issues, affiliate with the Physics & Astronomy writing group, and more! For more information contact one of the GSO Executive Officers: Gabriella Townsley, Fatima Lariz, Paige Trevarrow.

Peer Mentoring Program

The Physics & Astronomy Department has a graduate student led peer mentor program. The program is organized and maintained by the GSO.

Astronomy Associates of Lawrence

The Astronomy Associates of Lawrence (AAL) is an organization of students and community members interested in Astronomy. This organization elects its own officers. Faculty Advisor: Prof. Bruce Twarog.

Declaring an advisor

Below is the department protocol for declaring an advisor.

- (1) To declare an advisor, an Advisor Declaration Form (at the end of the document) shall be signed by both the student and the advisor and submitted to the graduate coordinator.
- (2) In the case of a student who is changing their advisor, an Advisor Termination Form shall be signed by either the student or the advisor and submitted to the

graduate coordinator. If the student has reached Candidacy, that student will then be given a period of 4 months to find a new advisor and submit a new Advisor Declaration Form. Such a student who has failed to find a new advisor before the 4-month deadline may be put on academic probation.

Please contact the Graduate Coordinator or reference the end of this handbook for the forms.

Enrollment & Grading

For Enrollment & Grading regulations, the department adheres to the descriptions and policies outlined on the Graduate Studies Policy website [here](#) and COGA recommendations found for grading [here](#) and enrollment [here](#).

Students enrolled in Thesis or Dissertation hours may be assigned grades of "SP" (Satisfactory Progress), "LP" (Limited Progress), or "NP" (No Progress). Please see the Physics & Astronomy department's policy for assigning these grades [here](#).

Incomplete Grades:

The grade "I" (Incomplete) is used to indicate work of passing quality in a course, some part of which is, for good reason, unfinished. It is given only by advance arrangement between instructor and student. Some instructors may reserve the right not to give I's. University policy on Incompletes may be found [here](#). The Physics and Astronomy department discourages Incompletes except in truly unusual emergency situations; students are advised to make the removal of any I's on their record a matter of first priority. The accumulation of two simultaneous Incompletes or the failure to have an incomplete removed by the date determined by the instructor, in consultation with the student, will result in a graduate student falling out of good academic standing and non-reappointment to a graduate teaching assistantship. A grade of I is not an appropriate assessment in Master's Research/Thesis or Ph.D Dissertation Research courses and will not be accepted. Additionally, an Incomplete may impact eligibility for scholarships, fellowships, and travel funds.

Graduate Faculty Administrators

Prof. [K.C. Kong \(kckong@ku.edu\)](#) is the Director of Graduate Studies for the department.

Prof. [Wai-Lun Chan \(wlchan@ku.edu\)](#) is the Graduate Student Advisor. Each student is required to meet with Prof. Chan every semester for advising until he/she secures a research advisor.

Prof. Alice Bean ([abean@ku.edu](#)) is the Chair of the Graduate Committee.

Graduate Teaching Assistantship Information

For non-native English speaking students, please see the [Graduate Studies English proficiency requirements](#) for GTA eligibility.

Pedagogical Instruction

Every student who receives a GTA appointment will be required to complete PHSX 702 at the first offering of the course starting with the semester of the student's initial GTA appointment. Failure to complete this class at the first opportunity may affect consideration for subsequent GTA appointments.

GTA Time Limits

A graduate student of the Department is allowed to hold a GTA appointment for a maximum number of 12 semesters (spring and fall semesters only). In special situations, a student can submit an application to extend eligibility to the Graduate Committee. Accompanying this request should be a detailed plan on graduation and a statement on the length of extension needed (up to the 16 semester maximum allowed by the College). We suggest that the detailed plan be completed using the [Degree Completion Agreement template](#).

Grievances Procedures

The Department of Physics & Astronomy advises that graduate students attempt to resolve issues, especially matters concerning grades, directly with the instructor or party involved, or with the Department Chair. If a grievance arises that cannot be resolved directly, or if the student does not feel comfortable attempting to resolve the issue with the Department Chair, the student should then follow the department's official grievance procedure, which has been approved by the University and may be found [here](#).

Multiple Career Pathways

Given the current state of the tenure-track job market in most fields, doctoral students will also benefit from any information the department can provide about professional development opportunities that support a wide variety of career paths appropriate to the discipline. Discussing this in your handbook also sends a clear signal to your doctoral students that it is acceptable to discuss the realities of the job market and career options with their advisor and/or DGS.

The following websites are good places for students to start exploring a range of career options beyond the tenure track, including professional positions in industry, non-profit, government, research, higher education administration, and others. The following links, as well as resources identified by your faculty as especially relevant to your discipline, should be provided in your student handbook:

[Chronicle of Higher Education](#) – Students can set up an account in Vitae, the Chronicle's job site, to receive updates on career-related news and create customized job searches. They may also access useful articles under the "Manager Your Career" column of the Advice section. Some Chronicle content is limited to subscribers.

[Inside Higher Ed](#) – Students can explore the dedicated Career section of the website. Content does not require a subscription.

[The Versatile PhD](#) – This is a subscription service with extensive content geared toward PhD students putting their skills to use in a variety of career paths. The service includes a number of active forums used by job seekers that can provide graduate students with an early

glimpse of the non-academic job market. Students must login to myKU and follow the link under the "Services" menu.

[KU Career Center](#) – While undergraduates make more frequent use of the Center, the unit's career counselors can be especially helpful to graduate students as they explore sectors beyond academe, including useful websites to seek jobs in industry, government, and non-profit sectors.

Past requirements

Please visit the [Past Requirements](#) website for a list of changes to the Graduate Program.

Petitions

Students may submit a petition to the Graduate Committee for any department requirement. The committee will review the petition and the Graduate Coordinator will report the outcome of the petition to the student. Some petitions have required supporting documents – please contact the Graduate Coordinator for required documents.

In cases where the policy or requirement being petitioned is a University policy, the graduate faculty will decide whether to support the student's petition. If the faculty is in support, the department will submit a petition form to the College Office of Graduate Affairs accompanied by supporting materials as required. The petition form specifies the supporting material needed for each kind of petition. These materials must accompany the petition sent to COGA. COGA's petitions web page provides additional information regarding University petitions, including supplemental documentation that may be required by the University. Additional information regarding the more common University petitions, such as Leave of Absence, Enrollment requirements, and Time Limit Extensions may also be found in the University Policies & Degree requirements section of this document.

In cases where the graduate faculty declines to support a University petition, no paperwork may be submitted to COGA. COGA only accepts student petitions in cases where there is documented departmental support and when the petition itself is submitted by a representative of the department.

Students should always consult with the DGS prior to submitting a petition to the graduate faculty to ensure that a petition is necessary and that all the appropriate supporting documentation is accounted for.

Professional Development

The department is invested in the professional development of the graduate students. The relationship between research advisors and their students often leads to connections in their respective fields. The department also has close ties to alumni in a variety of industry and academia positions. Professional development is encouraged through workshops and other department events.

Semester Review

Each fall and spring semester, after a student's first semester, the department will provide students with written status updates. These status letters will lay out student progress in the program, with updates on department and university requirements. The Graduate Coordinator will contact the students and research advisors with the letters.

Degree Requirements

The graduate program in Physics is designed for well-prepared and highly motivated graduates of undergraduate Physics, Astronomy or Engineering Physics programs, though qualified students with more diverse backgrounds are encouraged to apply. Most physicists with graduate degrees are employed by academic institutions ranging from research universities to community colleges, industrial /technical firms, government laboratories, or federally funded research and development centers. The primary goal of the Department is to supply our graduates with the skills and insight necessary to succeed in the area of specialization that best suits their interests and talents. As demonstrated in the research overview of the Department, we offer a wide array of research opportunities touching virtually every area of active research within Physics and Applied Physics. Interactive learning and independent thinking are emphasized through classroom instruction, numerous seminars and regular colloquia, and supervised research with access to exceptional research facilities here and abroad.

The following are requirements for all degrees in the program, unless otherwise stated.

Communication Skills (Talk Requirement)

All graduate students, after their first semester, will deliver at least one oral presentation per semester related to physics or astronomy. The talk should be at least 20 minutes long. For students not yet associated with a research group, the Graduate Seminar can serve as a venue. This is a likely scenario for students who start their studies in the Spring semester, and so enroll in the Graduate Seminar in their second semester. For students who take the Graduate Seminar (PHSX 717) in their first semester (Fall), the seminar of their research group would be a more natural venue to give a talk. Students do not need to be enrolled in a research seminar to give a talk in that seminar. Class presentations can also satisfy the talk requirement, provided that they follow the length and signature requirements. When giving presentations, students should fill out an [Oral Presentation Form](#) and have it signed by two attendees, one of whom must be a KU Physics or Astronomy faculty member and the other of whom must be a PhD doing research in the department. Faculty members who sign off on the talks are expected to provide constructive feedback to the student. Off-campus venues such as collaboration meetings (when endorsed by their advisor), invited presentations, poster presentations (with an oral component and faculty confirmation) and conferences can also satisfy this requirement. For this to occur, the student must submit a copy of the agenda or speaking event with the student's presentation indicated. In this case no attendee signatures are required and the 20-minute time limit does not apply. The completed form or evidence of the off-campus presentation must be provided to the Graduate Coordinator, who will monitor student compliance with the requirement.

Graduate Student Tracking Process (Annual Self-Evaluation)

All graduate students will need to submit an annual report starting after they have been enrolled in our department for one year. This is part of our departmental student progress tracking and will be overseen by the Graduate Student Evaluation committee. This committee will specify the deadlines for handing in the forms. The failure of the student to

complete this progress report by these deadlines may affect their standing in the graduate program.

The exact implementation details depend on the stage of the student's graduate career. The Departmental Graduate Advisor has the evaluation responsibilities for pre-preliminary candidacy students and for terminal master's degree students. In the preliminary candidacy stage, the Graduate Student Evaluation Committee or the student's research advisor will carry out the evaluation with oversight from the Graduate Student Evaluation Committee. In the candidacy stage, the student's research advisor carries out the evaluation with oversight from the Graduate Student Evaluation Committee.

The revised procedures are as follows broken down by stage in the program.

First semester: All students will meet with the Departmental Graduate Advisor before the start of classes of their first semester. They are also required to meet with the Departmental Graduate Advisor at least once before the end of the first semester, ideally around the time of enrollment for the second semester.

Before preliminary candidacy or students seeking a terminal master's degree: These students will submit the annual report form to the Graduate Coordinator who will forward it to the Departmental Graduate Advisor. A meeting will be initiated with the Graduate Advisor if there are concerns. The first form must be submitted between the 10th and 14th month following each student's entry into the program. Following this, the evaluation will occur at 10-14 month intervals for the duration of the student's tenure in our graduate program.

Between preliminary candidacy and passing the comprehensive exam: Students will submit their annual report form to the Graduate Coordinator. The form will be evaluated by either the Graduate Student Evaluation Committee or by their research advisor, if requested by the student and agreed to by the advisor. In the case that the research advisor completes the non-student portion part, the advisor will submit it to the Graduate Coordinator by the submission deadline.

After passing the comprehensive exam: Students will submit their annual report form to the Graduate Coordinator. Their research advisor will evaluate the form. The advisor will complete the non-student portion and submit it to the Graduate Coordinator by the nominal submission deadline. The Committee will read the submitted forms and the comments of the research advisor.

For preliminary candidates and candidates, the Graduate Student Evaluation Committee may, at their own discretion, initiate a meeting with the student and the student's research advisor, should one exist, and the committee members. A meeting should be initiated if there are unsatisfactory remarks or warning signs or if the student or research advisor requests such a meeting. The goal of the meeting should be to develop a plan to address the concerns identified from the report.

A flow chart and links to the evaluations will be sent to the students and committees in December or January, with an anticipated complete date of late February.

Individualized Plan of Study

Individualized plan for ensuring student preparation for MS or PhD degrees in Physics. All students are eligible to immediately enroll in graduate classes.

Students will be required to attend an advising session with the Departmental Graduate Advisor. This session will include a discussion of student's transcripts and potential course enrollment. A diagnostic exam, which includes topics in Classical Mechanics, E&M, Quantum Mechanics and Thermodynamics, will be used to help assess the student's preparedness for the graduate curriculum. Also discussed will be the possibility of transferring graduate coursework and the suggested course schedule.

This meeting will be used to develop an individualized plan for the student to facilitate their timely completion of graduate requirements.

Following the development of the individualized plan, the advising process will continue through regular check-ins and reviews of student progress. These reviews will include looking at student grades, research progress, and general progress towards meeting departmental milestones.

Teaching Requirement (PhD Only)

All PhD students are required to have carried out a minimum of one semester of being a teaching assistant (TA) in the department prior to obtaining their PhD.

Undergraduate Lab Requirement

A candidate for a MS or PhD degree who has not had the equivalent of 6 credit hours of advanced undergraduate laboratory course work (Junior/Senior level) is required to achieve at least a B grade in one of the three advanced laboratory courses offered in the Department.

- PHSX 536 Electronic Circuits and Measurements
- PHSX 601 Design of Physical and Electronic Systems
- PHSX 616 Physical Measurements I (previously 516)

M.S. Degree

For the academic catalog degree requirements, please visit the university [website](#).

The MS degree in Physics can be obtained as a terminal degree for students not wishing to continue toward a PhD or for students who complete the necessary graduate course work but do not qualify for PhD candidacy. As with the PhD degree, the MS degree presents a challenging program designed to provide an in-depth look at the foundational areas of modern Physics. For students meeting the qualifications upon entering the program, the first two years are structured around classroom and lab instruction, supplemented by research projects and regular interaction with multiple research groups within the Department. Attendance at colloquia and seminars is strongly encouraged. A master's thesis is not required, but may be submitted if the candidate and the director of the candidate's research believe it to be appropriate. For complete and explicit details regarding admission to the program and progress toward a master's degree, please see the [department website](#).

For funding and award information, please visit the [Graduate Student Funding Opportunities page](#).

An applicant seeking to pursue graduate study in the College may be admitted as either a degree-seeking or non-degree seeking student. Policies and procedures of Graduate Studies govern the process of Graduate admission. These may be found in the Graduate Studies section of the online catalog.

We notify applicants of admissions decisions as early as possible. Initial decisions for the Fall Semester are typically sent by the end of February, and final notification to all applicants is usually sent by May. For the Spring semester, initial decisions are typically sent in November with final notifications to all applicants being sent in December. We send admissions decisions exclusively through Slate. We do not share admissions information over the phone, and we do not share reasons for denial of admission. If admitted to the program, please indicate your decision to accept or decline our offer through Slate using the link in your admissions decision email.

Applicants should also review the Physics and Astronomy Department requirements for Graduate Admissions.

Requirements

Candidates must complete a minimum of 30 credit hours of advanced lecture courses (numbered 500 or above) in physics and related subjects within seven years. Credit is not given to students who take courses at a lower level after having completed the similar upper level courses with a grade of B- or higher. Program requirements include:

1. Within 12 months of entering the program the student must fulfill [the requirements of the individualized plan of study](#) for all graduate degrees to certify an undergraduate knowledge of Physics. Visit the Department's website for more information on those requirements and the process of certification.
2. Four basic courses.
 - o PHSX 711 Quantum Mechanics I (3)

- PHSX 718 Mathematical Methods in Physical Sciences (3)
 - PHSX 821 Classical Mechanics (3)
 - PHSX 831 Electrodynamics I (3)
3. Two additional courses chosen from:
 - PHSX 721 Chaotic Dynamics (3)
 - PHSX 741 Nuclear Physics I (3)
 - PHSX 761 Elementary Particles I (3)
 - PHSX 781 Solid State Physics I (3)
 - PHSX 792 Topics in Advanced Astrophysics (3)
 - PHSX 793 Physical Cosmology (3)
 - PHSX 795 Space Plasma Physics (3)
 - PHSX 815 Computational Physics and Astronomy (3)
 4. A minimum of two hours in PHSX 899, Masters Research/Thesis, is required, with a maximum of six hours that count toward the master's degree. No more than three hours will be allowed unless a thesis on original research or a written report is presented. Students must consult with their research advisor before enrolling in more than three credit hours.
 5. All graduate students, after their first semester, will deliver at least one [oral presentation](#) per semester.
 6. The remaining six to ten hours of advanced electives must be either advanced lecture courses or advanced undergraduate laboratory courses within the department. (This proviso excludes seminars and special problems courses.)
 7. Candidates must pass a general oral examination in physics. The examination is given shortly before completion of other work for the degree. A master's thesis is not required, but may be submitted if the candidate and the director of the candidate's research believe it to be appropriate.

Please see the University's policies regarding [requirements for the Master's degree](#) and [Master's Student Oral Exam Committee Composition](#). For information on time limits, please review the [Master's Time Limit Policy](#).

M.S. with emphasis in Computational Physics and Astronomy

For the academic catalog degree requirements, please visit the university [website](#).

This concentration of the M.S. degree is for students with a background in physics, astronomy, computer science, mathematics, or engineering who wish to become familiar with computer-based approaches to problems in these fields. This concentration is intended as a terminal M.S. that can be completed in two years. Minimum preparation expected includes a year's course in general physics, mathematics through differential equations, and a knowledge of python, FORTRAN, C++ or another programming language suited to scientific applications. Students pursuing this degree with an applied mathematics emphasis may wish to consider also earning a [Graduate Certificate in Applied Mathematics](#).

Requirements

A total of at least 33 hours of credit is required for the degree. Courses numbered 500 or above count for graduate credit. Students entering the program may have satisfied several

of these requirements but a total of 33 hours is still required. No more than the required six hours of PHSX 899 (Master's Research/Thesis) may be counted toward the degree.

1. Within 12 months of entering the program the student must fulfill [the requirements of the individualized plan of study](#) for all graduate degrees to certify an undergraduate knowledge of Physics. Visit the Department's website for more information on these requirements and the process of certification.
2. Required courses (24 credit hours):
 - o PHSX/ASTR 815 Computational Physics and Astronomy (3)
 - o PHSX 718 Mathematical Physics (3)
 - o MATH/EECS 781 Numerical Analysis I or EECS 639 (Introduction to Scientific Computing) (3)
 - o EECS - one graduate level course (in addition to MATH/EECS 781) (3)
 - o EECS or MATH - one course at the 700 level or above in EECS or MATH (in addition to MATH/EECS 781 and the EECS 500+ requirement) (3)
 - o One additional PHSX/ASTR lecture course at the 500 level or above (3)
 - o PHSX 899 Master's Research/Thesis (6)
3. Nine (9) or more credits from at least three lecture or lab courses from the following list of courses: (Note: No double counting: a course used to fulfill a requirement under 2. may not also be counted under 3.)
 - o EECS 560 Data Structures (4)
 - o EECS 672 Introduction to Computer Graphics (3)
 - o EECS 731 Introduction to Data Science (3)
 - o EECS 738 Machine Learning (3)
 - o EECS 739 Parallel Scientific Computing (3)
 - o EECS 837 Data Mining (3)
 - o EECS 868 Mathematical Optimization with Applications (3)
 - o MATH 611 Fourier Analysis of Time Series (3)
 - o MATH 647 Applied Partial Differential Equations (3)
 - o MATH 650 Nonlinear Dynamical Systems (3) (can not be counted along with PHSX 721)
 - o MATH 727 Probability Theory (3) or MATH 627 Probability (3)
 - o MATH 728 Statistical Theory (3) or MATH 628 Mathematical Theory of Statistics (3)
 - o MATH/EECS 782 Numerical Analysis II (3)
 - o MATH 783 Applied Num. Methods for PDEs (3)
 - o PHSX/ASTR Courses Numbered 500 and above
4. All graduate students, after their first semester, will deliver at least one [oral presentation](#) per semester.
5. An important component of this degree is the completion and documentation of a successful computer project. A thesis must be presented that describes the basic physics involved in the project, the method of implementing the project, and a discussion of the results. An oral defense of the thesis is required before a committee of at least three members of the graduate faculty.

Please see the University's [policy on time limits](#).

Example Schedules

An Example Schedule

(This schedule is meant only to illustrate one possible set of courses that would allow one to complete the degree in two years. Not all courses will necessarily always be offered in the semester indicated.)

- FA Year 1
 - PHSX 718 (3)
 - MATH 781 (3)
 - EECS 731 (3)
- SP Year 1
 - PHSX 815 (3)
 - EECS 568 (4)
 - EECS 738 (3)
- FA Year 2
 - PHSX 711 (3)
 - MATH 727 (3)
 - PHSX 899 (3)
- SP Year 2
 - PHSX 761 (3)
 - EECS 739 (3)
 - PHSX 899 (3)

Another Example Schedule

(This schedule is meant only to illustrate one possible set of courses that would allow one to complete the degree in two years. Not all courses will necessarily always be offered in the semester indicated.)

- FA Year 1
 - PHSX 718 (3)
 - MATH 781 (3)
 - EECS 565 (4)
- SP Year 1
 - PHSX 815 (3)
 - EECS 560 (4)
 - MATH 647 (3)
- FA Year 2
 - ASTR 691 (3)
 - MATH 783 (3)
 - PHSX 899 (3)
- SP Year 2
 - PHSX 795 (3)
 - EECS 739 (3)
 - PHSX 899 (3)

Ph.D. Degree

For the academic catalog degree requirements, please visit the university [website](#).

The PhD in Physics is a challenging program designed to provide an in-depth look at the foundational areas of modern Physics as a basis for the selection of an area of research specialization which becomes the focus of a PhD thesis. For students meeting the qualifications upon entering the program, the first two years are structured around classroom and lab instruction, supplemented by research projects and regular interaction with multiple research groups within the Department. Attendance at colloquia and seminars is either required or strongly encouraged. Once a student has met the requirements for PhD candidacy and has been selected to work with a PhD advisor, the emphasis shifts to full-time research with the expectation of the completion and defense of a PhD thesis, typically within 2 to 4 years. For complete and explicit details regarding admission to the program and progress toward a graduate degree, please check out the [department website](#).

For funding and award information, please visit the [Graduate Student Funding Opportunities page](#).

An applicant seeking to pursue graduate study in the College may be admitted as either a degree-seeking or non-degree seeking student. Policies and procedures of Graduate Studies govern the process of Graduate admission. These may be found in the [Graduate Studies](#) section of the online catalog.

We notify applicants of admissions decisions as early as possible. Initial decisions for the Fall Semester are typically sent by the end of February, and final notification to all applications is usually sent by May. For the Spring semester, initial decisions are typically sent in November with final notification to all applicants being sent in December. We send admissions decisions exclusively via email through Slate. We do not share admissions information over the phone, and we do not share reasons for denial of admission. If admitted to the program, please indicate your decision to accept or decline our offer through Slate using the link in your admissions decision email.

Applicants should also review the [Physics and Astronomy Department requirements for Graduate Admission](#).

Milestones

General Milestones

There are a set of milestones on the way to completing a Ph.D. degree in the department. Each of these milestones has an associated deadline. Failure to meet any of these milestones by its deadline may result in the loss of funding (TA- or RA-ships) and/or in the denial of candidacy for the Ph.D. Completion of all milestones at earliest possible time is encouraged. The milestones are summarized here in order of expected occurrence and explained in more detail below:

1. Admission to preliminary candidacy for a Ph.D. must occur within the first two years.
2. All students will meet with the Departmental Graduate Advisor before the start of classes of their first semester. They are also required to meet with the Departmental Graduate Advisor at least once before the end of the first semester, ideally around the time of enrollment for the second semester.

Pre-comprehensive Milestones

3. Within 12 months of entering the program the student must fulfill [the requirements of the individualized plan of study](#) for all graduate degrees.
4. All students will submit an annual report form to the Graduate Coordinator who will forward it to the Departmental Graduate Advisor. A meeting will be initiated with the Graduate Advisor if there are concerns. The first form must be submitted between the 10th and 14th month following each student's entry into the program. Following this, the evaluation will occur at 10-14 month intervals for the duration of the student's tenure in our graduate program.
5. Within 2 years of entering the program the student must fulfill requirements for [preliminary candidacy](#).
6. Students will submit their annual report form to the Graduate Coordinator. The form will be evaluated by either the Graduate Student Evaluation Committee or by their research advisor, if requested by the student and agreed to by the advisor.
7. Before the end of a 12-month period following the preliminary candidacy, the student is expected to join a research group in the department, or, at least to have spent significant effort in seeking a thesis advisor.
8. By 12 months following the entrance into preliminary candidacy, the student should have completed almost all [lecture course work](#) and started preparation for the [comprehensive examination](#).
9. Before the end of an 18-month period following preliminary candidacy the student must have chosen an advisor, have completed the comprehensive exam, and should be carrying out Ph.D. research. A dissertation committee must be assembled, usually comprising the members of the comprehensive exam committee.

Post-comprehensive Milestones

10. The student is now a Ph.D. candidate and must abide by the rules for [post-comprehensive enrollment](#). It is encouraged that the student schedule a meeting with their dissertation committee every twelve months after admission to preliminary candidacy.
11. Students will submit their annual report form to the Graduate Coordinator. Their research advisor will evaluate the form.
12. The student will prepare a dissertation based on the student's original research, which must be satisfactory to the departmental members of the dissertation committee, and will defend it in a [final oral examination](#) before the dissertation committee. This examination is open to the public.

Course Requirements

Undergraduate Preparation

All students must adhere to the [General Requirements for all Graduate Degrees](#), which are part of each student's Individualized Plan for ensuring student preparation.

What follows are the default set of requirements for all Physics Ph.D. candidates. A total of 9 courses (27 hours) of advanced lecture courses are required. This excludes all seminars and colloquia.

- a. Core courses
 - o PHSX 711 Quantum Mechanics I
 - o PHSX 811 Quantum Mechanics II
 - o PHSX 821 Classical Mechanics
 - o PHSX 831 Electrodynamics I
- b. Other required courses
 - o PHSX 717 Graduate Seminar (satisfies Responsible Scholarship requirement)
 - o PHSX 815 Computational Physics
 - o PHSX 871 Statistical Physics I (usually offered every two years. Substitution of CHEM 852 for this credit is not permitted)
- c. Three additional 3 credit hour lecture courses. At least one must be a PHSX/ASTR course numbered 700 or above. Students who wish to pursue a more multidisciplinary plan of study, please see the multidisciplinary plan description below. Please note that courses cannot be substituted for this elective requirement.
- d. Colloquium attendance is required according to the description in "Colloquium and Graduate Seminar" below.
- e. All graduate students, after their first semester, will deliver at least one oral presentation per semester. See "[Communication Skills](#)" for an explanation
- f. Our department has an undergraduate lab requirement for all graduate students. For details please visit this [link](#).

The courses listed above comprise the Department course requirements common to all students except those pursuing a multi-disciplinary plan of study, which is described below. Subsequent work, consisting of advanced courses in appropriate fields and seminars, will be selected by the student and the advisor on the basis of the student's need and intended field of specialization. The student's dissertation committee will determine the adequacy of the student's courses and seminars and will specify the total course requirements in addition to those listed above.

Students who wish to pursue a more multidisciplinary plan of study may incorporate coursework from up to two other natural science, engineering, or mathematics (SEM) departments at KU by substituting non EPHX/PHSX/ASTR courses at the 600 level and above from these other disciplines for up to two of the three additional electives described above. The research advisor or the Departmental Graduate Advisor, who is the default advisor for all students without a research advisor, shall approve all such outside course choices and provide documentation for the student file on the approved courses and their rationale.

Students who wish to take courses in the social sciences, humanities, or professional schools must submit a detailed plan of study that must be approved by the Physics and Astronomy Graduate Committee. Please note that while these unique plans involving non-SEM fields will be considered, there is no guarantee that the plan of study will be approved.

Suggested Course Schedule

A sample academic schedule for a student who has a half-time teaching or research assistantship during the first four semesters is shown below. It includes the core courses for admission to preliminary candidacy and a set of lecture courses that meet the Ph.D. course requirements. It is the schedule for a full-time resident student with the normal preparation described above and who is working toward the Ph.D. degree. Students admitted with less preparation may begin with less advanced courses. Only courses numbered 500 and above carry graduate credit.

The electives listed below, e.g. 741, 781, 795, 911, are purely an illustrative option. Students have the freedom to choose which non-required courses satisfy their elective requirements. Note that this sample schedule may also not apply for a student pursuing a more multidisciplinary plan of study.

Incoming students meet with the Departmental Graduate Advisor before enrolling to decide on their individual schedules. The schedule below is only a sample and may differ depending on the outcome of this advising session.

First Semester

Courses	Credits
702 Pedagogy (*if GTA)	1
711 Quantum Mechanics I	3
717 Graduate Seminar	1
719 Problem Solving	1
821 Classical Mechanics	3

Second Semester

Courses	Credits
703 Grant Writing	1
719 Problem Solving	1
811 Quantum Mechanics II	3
815 Computational Physics	3
831 Electrodynamics I	3

Third Semester

Courses	Credit
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781 Solid State Physics	3
931 Electrodynamics II	3

Fourth Semester

Courses	Credit
795 Space Plasma Physics	3
871 Statistical Physics I	3

Preliminary Candidacy

To be admitted to preliminary candidacy, each graduate student must satisfy the following department requirements:

1. Within 12 months of entering the program the student must fulfill the [requirements of the individualized plan of study](#) for all graduate degrees to certify an undergraduate knowledge of Physics. Visit the Department's website for more information on those requirements and the process of certification.
2. Achieve a minimum core course grade point average of 3.2. The core course GPA is computed from the following equally weighted elements:
 - a. Grade obtained in [PHSX 711](#) Quantum Mechanics I
 - b. Grade obtained in [PHSX 811](#) Quantum Mechanics II
 - c. Grade obtained in [PHSX 821](#) Classical Mechanics
 - d. Grade obtained in [PHSX 831](#) Electrodynamics I
 - e. Average grade of 2 other PHSX lecture courses numbered 700 or higher, excluding [PHSX 815](#) (computational physics) and [PHSX 717](#) (graduate seminar).
3. Students may repeat any of the core courses ([PHSX 711](#), [PHSX 811](#), [PHSX 821](#), and [PHSX 831](#)) once for the purpose of improving the core GPA. In calculating the core GPA, the Department will use only the better of the two grades.
4. The three additional 700 level or higher lecture courses ("c" under course requirements) must be taken at KU, but students entering with graduate credit from other institutions may petition the Graduate Committee for a waiver for any of the 4 named core courses ("a" under course requirements). For the purposes of the core GPA, grades (of "B" or better) from the previous institution may be used for at most 3 of the 4 named courses.
5. Graduate students are normally expected to complete all core courses by the end of their second year of enrollment.

Decision on Preliminary Candidacy

Once requirements for Preliminary Candidacy have been met, the Graduate Committee will decide whether to admit the student to Preliminary Candidacy. Once requirements for

Preliminary Candidacy have been met and confirmed by the Graduate Committee, the Graduate Committee Chair will report this result to the Graduate Faculty.

Research Skills and Responsible Scholarship

Before being able to schedule the comprehensive exam, the student must complete the Research Skills and Responsible Scholarship requirements. The University requires that every doctoral student receive training in responsible scholarship pertinent to the field of research and obtain research skills pertinent to the doctoral level of research in their field(s). These requirements must be completed by the end of the semester that the student takes the oral comprehensive exam. The Research Skills requirement can be satisfied with a B or better grade in a non-core, physics or astronomy graduate course that covers material (i.e., skills) appropriate for the research specialty of the student. The course shall be chosen in consultation with the student's advisor, who will inform the graduate coordinator. The course will typically be an elective course. The default option for satisfying this requirement will be [PHSX 815](#), unless the student elects to use another eligible course in its place.

Example courses (not an exhaustive list), are:

PHSX 815 Computational Physics
PHSX 741 Nuclear Physics I
PHSX 761 Elementary Particles I
PHSX 781 Solid State Physics I
ASTR/PHSX 793 Physical Cosmology
ASTR 792 Topics in Advanced Astrophysics
PHSX 795 Space Plasma Physics

The Responsible Scholarship requirement is filled via completion of [PHSX 717](#), Graduate Seminar.

Pedagogical Instruction

Every student who receives a GTA appointment will be required to complete [PHSX 702](#) at the first offering of the course starting with the semester of the student's initial GTA appointment. Failure to complete this class at the first opportunity may affect consideration for subsequent GTA appointments. PHSX 702 is only offered in the fall semester.

Comprehensive Examination

After completing a major portion of the required course work and satisfying the Research Skills and Responsible Scholarship requirement, the student must pass the comprehensive examination.

As a written component of the exam, the student will write a 2,000 to 4,000 word paper on a topic in their chosen sub-field that is relevant to their thesis work. There is also an oral component of the exam in which the student makes an oral research presentation to a committee of faculty. This committee then asks the students questions both on their presentation and on general physics and astronomy knowledge.

Please also see the [College requirements for the Comprehensive Examination](#).

After completing a major portion of the required course work and satisfying the research skills requirement, the student must pass the comprehensive examination. The department requires at least five people to be members on the Dissertation Committee. These names are submitted to the Division of Graduate studies, which makes the final appointments. The committee should be chaired by the student's research advisor. By serving as the Chair, this person agrees to supervise the student during their dissertation research. One committee member must come from outside of the Department to serve as a representative of the Graduate School. Requests to take the examination must be made to the Graduate Coordinator at least three weeks in advance of the date of the examination.

The student will write a 2,000 to 4,000 word paper on a topic in their chosen sub-field that is relevant to their thesis work. This paper must be presented to the committee at least one week in advance of the scheduled oral exam. The student will make a presentation at the oral examination based upon this paper and will be examined on the contents of the talk, the paper, and works listed in the paper's bibliography. The bibliography must include at least one recent article from a peer-reviewed journal not authored by the student or the student's advisor. In addition, the committee may ask questions at the oral examination that cover the entire field of physics plus any related material (such as mathematics or chemistry) considered relevant by the examining committee.

In order to pass the comprehensive exam, the student must receive passing grades on both the written and oral components of the exam. The overall grade on this examination, determined by the examining committee, will be "Honors," "Satisfactory," or "Unsatisfactory."

Comprehensive Exam Checklist

The checklist will be filled out after the comprehensive exam and retained as a part of the student's records. The student's thesis advisor will discuss the results with the student. For an example checklist, please see the template located [here](#) (PDF).

Post-Comprehensive Requirements

Upon passing the comprehensive examination, the student becomes a candidate for the Ph.D. degree. Each candidate must complete a research project that has been approved by the dissertation committee. The committee establishes the candidate's course requirements and directs the research.

At least once each year after passing the comprehensive examination, the student must schedule a meeting with his or her dissertation committee to discuss progress towards the completion of the dissertation and any other concerns.

Post-Comprehensive Enrollment

Upon passing the comprehensive examination, the student becomes a candidate for the Ph.D. degree. The student and the student's advisor will then designate the candidate's dissertation committee based on the recommendation of the Department. Each candidate must complete a research project that has been approved by the committee. The committee establishes the candidate's course requirements and directs the research.

The candidate must adhere to the University's Post-Comprehensive Enrollment Policy to be eligible for graduation. Any deviation from this policy may result in the student not being able to graduate unless an additional petition is submitted and approved at least three weeks prior to the intended date of the dissertation defense.

See the bullet points below for a brief overview of the University's Post-Comprehensive Enrollment Requirements. Should there be a discrepancy between this information and that which is stated in the University's Policy, defer to the Policy information.

- Unless granted a leave of absence, the candidate must be continuously enrolled full-time, including summer sessions, until all requirements for the degree are completed.
- Post-comp doctoral students must initially enroll in a minimum of 6 hours each Fall and Spring semester and 3 hours each Summer.
- Post-comp enrollment must include within the 6 or 3 required hours at least one dissertation or dissertation-equivalent hour every term, with the exception of the semester in which the comp exam is taken. For the Physics & Astronomy Department, the only acceptable course that meets this requirement is PHSX 999.
- The post-comp enrollment requirement remains in effect as described until the student has completed 18 post-comp hours, or until graduation, whichever comes first.
- Hours completed during the semester in which the student takes his or her comprehensive exam count toward the required 18 hours, as long as enrollment during that semester follows the requirements described above (the minimum 6-6-3 formula). Enrollment that semester does not, however, have to include a dissertation or dissertation-equivalent hour within the required 6 or 3 hours.
- A student may, under advisement of the department, enroll in more than 6 hours each semester to achieve the 18 hours more quickly (such as 9 hours in the Fall/Spring semesters).
- During the semester in which the student is due to complete the 18 hours of post-comp enrollment, he or she may drop down to whatever number of hours is required to complete the 18 (e.g., if the student started the semester with 15 hours of post-comp enrollment completed, only three hours are required). The student **MUST** notify the Graduate Secretary of this intention so that the appropriate certification may be filed at least **THREE** weeks before the start of the semester.
- The student must then continue to enroll in at least 1 dissertation or dissertation-equivalent hour each term, including summers, until he or she graduates. It is imperative that the student consult with his or her advisor about enrollment needs before reducing hours. As each student's coursework needs are unique, there may be instances where dropping to fewer hours would be detrimental to the student's progress to degree and/or funding, etc. There may also be instances in which a scholarship, fellowship, or other funding situation may require full-time enrollment. If the funding is provided by an institution outside of KU, such as the Department of Defense, it is the student's responsibility to check with the funding agency directly to ensure compliance with that agency's enrollment requirements.

GTA/GRA Post-Comprehensive Enrollment

All of the regulations above also apply to students with GTA/GRA/GA appointments. The only difference is that these students must be certified to drop their enrollment levels. The paperwork for this certification should be submitted at least one month prior to the beginning of the semester in which the student intends to reduce enrollment below full-time.

Dissertation Defense

The dissertation defense, or final oral examination, will proceed according to the [regulations of Graduate Studies](#).

We refer to these requirements below, as they appeared on September 24th, 2010, and we have inserted some modified requirements for those students who wish to pursue a more multidisciplinary dissertation topic.

It is the responsibility of the student to make sure that all University and Departmental requirements are satisfied.

Completion of the dissertation is the culminating academic phase of a doctoral program, climaxed by the final oral examination and defense of the dissertation. In all but the rarest cases, tentative approval of the dissertation is followed promptly by the final oral examination. Students must deliver their complete dissertation (PDF is acceptable) to their committee at least one calendar week before a final defense can be scheduled with the University. After each committee member agrees that the dissertation is essentially complete, a final defense can be scheduled. Lack of a committee member's response is considered to be implicit approval. This process will be fully monitored by the Graduate Coordinator. Once committee approval has been granted, the final defense must be scheduled with the Graduate Coordinator, though it is the responsibility of the student to find a date and time which will work for all Committee members. This requirement must be made in advance of the desired examination date by at least the period specified by the Graduate Division (normally a minimum of **three weeks**). The submission of the request must allow sufficient time to publicize the examination so that interested members of the university community may attend. At least five months must elapse between the successful completion of the comprehensive oral examination and the date of the final oral examination.

The committee for the final oral examination must follow the guideline put into place by [Graduate Studies](#). In addition, the Chair of the committee and three of the other four members must have appointments of some type within the Physics and Astronomy department. One member must be from a department other than the Physics and Astronomy department. Deviation from this policy may be allowed in special circumstances. Special circumstances will be determined on a case by case basis, and must be petitioned at least THREE weeks before the intended examination date, though more notice may provide a better chance to get the petition approved in time.

For students (and only those students) who are pursuing a multidisciplinary plan of study -- as defined by their substitution of courses from other departments for PHSX electives as described in the Course Requirements section -- up to two members of the committee, including the one required outside member, may be faculty from other SEM departments with regular, adjunct, or courtesy appointments at KU. The Chair must have an appointment

of some type within the Physics and Astronomy Department. (Exception: if the primary appointment of the Chair is outside the department, then only one additional committee member may be outside the Department of Physics and Astronomy.) NOTE: It is assumed that these research projects may involve interaction between physics and one or more other SEM disciplines; therefore, the external faculty members may come from up to two different departments.

The [College Office of Graduate Affairs](#) ascertains whether all other degree requirements have been met and if reports of any previously scheduled final oral examinations have been submitted and recorded. Upon approval of the request, the final oral examination is scheduled at the time and place approved by the Dissertation Committee. This information must be published in a news medium as prescribed by the Graduate Faculty. Interested members of the university community are encouraged to attend these examinations. Prior to the oral defense, each member of the PhD Committee is expected to complete the on-line rubric form for evaluation of the written communication and learning outcomes, as exemplified by the written thesis.

For every scheduled final oral examination, the department reports to the Graduate Division a grade of Honors, Satisfactory, or Unsatisfactory for the candidate's performance. If an Unsatisfactory grade is reported, the candidate may be allowed to repeat the examination on the recommendation of the department. Please see the [guidelines for assigning a grade of pass with HONORS](#) (Approved April 2013). Prior to the oral defense, each member of the PhD Committee is expected to complete the on-line rubric form for evaluation of the written communication and learning outcomes, as exemplified by the written thesis. An example of the rubric is available in the Graduate Student Handbook or by contacting the Graduate Coordinator.

The dissertation signature page must be signed by all committee members before the graduate coordinator approves the Application for Graduation. These signatures will be the indication that the dissertation and any revisions are satisfactory. All revisions must be completed by the date indicated on the signed Exam Outcome Form. This date must be within a 6 month period following the oral exam.

Students have to successfully submit their revised dissertation within the stated period. If they fail to do so, the minimum number of credit hours in which they have to enroll to remain a full-time student will be increased from one to three.

[See all Graduate College requirements](#) for a comprehensive guide on policies and procedures.

Dissertation Defense – Pass With Honors

The following are Proposed Guidelines for a Pass with Honors for the Ph.D. Final Defense (Approved April 2013)

The award of a Pass with Honors for the Ph. D. defense is the decision of the Ph.D. committee. Currently the criteria used are entirely at the discretion of the committee. The following guidelines are intended to help standardize this decision in the department. The following elements will generally all need to be present when granting a Pass with Honors.

1. Original research with a publication record.
2. Overall well written and presented thesis. Using the department's "Written Communication Learning Outcomes", the student should have a score of at least "very good" in each of the six written communication learning categories from a majority of the committee members. These categories are:
 1. Introduction / Statement of the Problem
 2. Grounding in the Literature
 3. Methodology / Approach
 4. Results / Analysis
 5. Discussion / Conclusion
 6. Quality of Writing
3. The student should be perceived by the committee to be in the top quartile (25%) of defending Ph.D. students in the department
4. The decision to grant Honors should normally be the consensus of at least four of the committee members.

Very good oral presentation and defense indicating detailed understanding of the thesis and related issues and the ability of the student to think and communicate well on their feet. The committee is requested to write up a brief paragraph to serve as a summary statement outlining their rationale for awarding Honors.

Department Resources

Course Substitutions

Students can petition the Graduate Committee to have redundant course work count towards their degree. Petition forms are available in the appendices or by emailing the Graduate Coordinator.

Colloquia

Colloquia are held most Mondays, typically in Malott Hall, room 2074. Please refer to the course requirements section of the handbook for details on this requirement.

Computing Resources

The department has access to a server maintained by the Center for Research Computing (<https://crc.ku.edu>). There are \$HOME, \$WORK, and \$SCRATCH spaces and descriptions are available at <https://crc.ku.edu/hpc/storage>. For access information please visit <https://crc.ku.edu/hpc/access>.

Conference Rooms

Students can reserve conference rooms in Malott Hall (rooms 2055, 3005, and 6051) for exams and general use. If you would like to reserve one of these rooms, please speak with any of the office staff located in Malott Hall, room 1082.

Graduate Student Lounge/Lactation Space

Malott Hall, room 6056 has been set aside as a Graduate Student Lounge. Access is by key code only and your key code to the Department Reading Room (Malott Hall, room 1087) will work for the Graduate Student Lounge.

Poster Printing Information

The preferred vendor for poster printing is Jayhawk Ink at the KU Bookstore in the Kansas Union. The Department has an account to which your poster can be charged. Jayhawk Ink does not invoice the Department for posters printed, so it is vital that you deliver the receipt you will receive when you pick up your poster. Please make sure your name is on the receipt before submitting it to Kristin for payment. If you need a service that is not provided by Jayhawk Ink, such as lamination, please contact Kristin Rennells for other printing options.

Travel Information

The Department has set up a [SharePoint site](#) called Physics & Astronomy Travel Information, which active graduate students can access. This site houses all of the documents related to travel planning and reimbursement. These documents are updated regularly, so please refer to the site to ensure you have the proper forms and instructions.

University Policies and Degree Requirements

This section contains information on requirements and policies of the Office of Graduate Studies and the College of Liberal Arts & Sciences, both hereafter referred to as "the University." It is not a complete list of all policies pertaining to graduate students. Only those policies that *most commonly* affect graduate students are included.

Policies are described in general terms and are intended to help students understand what is expected. They do not reflect the exact language of the official policy and should not be confused with official policy. Specific information and restrictions as well as links to relevant forms may be accessed by clicking on the policy headings. Links to the official policies in the KU policy library are found at the bottom of each policy description. Students are accountable to and should familiarize themselves with the University's official policies.

General Policies

The following University policies apply to ALL graduate students regardless of degree, program, or department. These are minimum general requirements. Your department or program may have more restrictive policies in any of these areas.

[Admission](#)

Degree or non-degree seeking applicants must have a bachelor's degree (as evidence by an official transcript from the institution the degree was obtained).

Students* not meeting these requirements *may* be admitted provisionally upon recommendation by the department; however, restrictions on certain type of funding, including GTA/GRA/GA funding, apply to students on provisional admission status. Students should consult the program admissions advisor or Director of Graduate Study (DGS) on their eligibility for funding with admission.

*By Federal regulation, International students seeking F-1 status must meet the standards of Regular Admission. Provisional admission is not sufficient to issue the Form I-20.

Related Policies and Forms:

- [Admission to Graduate Study](#)

[English Proficiency Requirements](#)

The University requires all applicants, international or domestic, to demonstrate English proficiency for admission to any graduate program at KU. There are three ways to prove English proficiency:

- Declaration of native speaker status on the online application for graduate study.
- Graduation with a baccalaureate degree (or higher) earned in residence from an accredited English-medium U.S. college or university or a college or university in the United Kingdom, Australia, New Zealand, Ireland, English-speaking province of Canada, or an English-speaking Caribbean country, with instruction conducted in English. Degrees earned online may not be used to verify English proficiency. Note: this option is not sufficient for employment as a Graduate Teaching Assistant.
- Official scores from an English proficiency standardized test (e.g. TOEFL, IELTS-Academic, or PTE), sent by the testing agency to the University of Kansas. Official scores must be less than two years old.

Applicants that do not meet the minimum scores should review the English Proficiency Chart, provided via the link above, for information about provisional admission and petition processes based on exceptional circumstances.

Applicants should submit their scores directly to the Office of Graduate Studies:

Related Policies and Forms:

- [English Proficiency Requirements for Admission to Graduate Study](#)
- [Spoken English Language Competency of Faculty and Graduate Teaching Assistants, Kansas Board of Regents Policy](#)
- [Graduate Credit](#)

Enrollment

For graduate students in the College, advising on enrollment and course selection take place at the department level. While units within the College may define full-time enrollment more stringently, the University defines it as follows:

Fall and Spring semesters:

- Enrollment in 9 credit hours;
- Enrollment in 6 credit hours plus a GTA, GRA, or GA appointment, regardless of percentage of appointment;
- Enrollment in 6 credit hours for graduate students using the Montgomery GI Bill – Active Duty (MGIB-AD) and Post-9/11 GI Bill – Active Duty;
- Doctoral candidates enrolled in dissertation hour(s). *See Doctoral post-comprehensive enrollment.

Summer sessions:

- Enrollment in 6 credit hours;

- Enrollment in 3 credit hours plus a GTA, GRA, or GA appointment, regardless of percentage of appointment;
- Enrollment in 3 credit hours for graduate students using the Montgomery GI Bill – Active Duty (MGIB-AD) and Post-9/11 GI Bill – Active Duty;
- Doctoral candidates enrolled in dissertation hour(s).

Graduate students are not normally permitted to enroll for more than 16 hours a semester or more than 8 hours in summer session.

While these are KU's definitions of full-time enrollment, other institutions may have different definitions. Be sure to consult with your financial aid and/or health insurance providers before making enrollment decisions.

Student not enrolled by 11:59pm the day before the first day of classes will be assessed a late enrollment fee. The University Registrar then deactivates the KU ID of any not enrolled by the last Friday in October (for Fall) or last Friday in April (for Spring). Students who wish to enroll after that must pay a fee to be reactivated.

Students who wish to leave their graduate program should inform the department of such plans in writing so that a Voluntary Withdrawal form may be submitted on their behalf.

Deadlines for adding, changing, dropping, or withdrawing from courses entirely, as well any fines associated with the change, are set by the University. **Deadlines vary from year to year. Students should carefully review the current [Academic Calendar](#).**

You may also wish to consult the Registrar's page on [Effects of Dropping or Withdrawing on your Transcript](#).

Related Policies:

- [Discontinued Enrollment](#)
- [Enrollment](#)
- [Enrollment Regulations](#) (CLAS)
- [Full-time Enrollment for Graduate Students](#)
- [Graduate Coursework Expiration Dates](#)
- [Master's Enrollment Requirements](#)

[Graduate Credit \(Including Transfer Credit\)](#)

The Office of Graduate Studies [policy](#) on Graduate Credit defines KU's conditions for the following:

- Definition of graduate credit for the purposes of a course "counting" towards a graduate degree or graduate certificate at KU;
- Transfer of graduate credit to KU from an outside institution;

- Reduction in the required number of graduate hours for Master's students;
- Counting credit hours taken as non-degree seeking student towards a later graduate degree at KU;
- Counting credit hours taken as a certificate seeking student toward another graduate degree.

Transfer Credit

The transfer credit option allows master's students to add graduate-level coursework completed at another institution to their KU transcript to count toward their KU degree. Upper level coursework taken as an undergraduate, even courses numbered at the graduate level, is not eligible for transfer in any case. Additional restrictions apply to what non-KU graduate courses and the number of credit hours that can be counted toward a KU master's degree, so students should carefully review the information provided in the link above and the related policies below, as well as consulting with their DGS. In all cases, transfer credit must first be approved at the department or program level. To begin the transfer process, students should consult with their DGS to submit the required transfer materials. These include a transcript reflecting the courses to be transferred and descriptions and/or syllabi for the courses in question.

No transfer of credits is allowed for the Ph.D. In circumstances where students enter the Ph.D. program with an M.A. from another institution or relevant graduate coursework, it may be possible for students to request a reduction in the number of hours required for the Ph.D. Students should consult with their DGS about their enrollment plan.

Reduced Credit Hour Degree

KU policy defines 30 hours as the minimum for master's degrees. Departments may petition for a reduced hour degree Master's degree for individual students in cases where they may provide evidence that the student entered the program especially well-prepared to complete a graduate-level degree and the student is able to maintain a superior grade point average. A reduction in hours is distinct from a transfer of credit and is reserved for those students in that they may in some cases be based on coursework that was already used to fulfill requirements towards a completed degree, some non-coursework (e.g. internships, study abroad), and there are no modifications on the transcript.

Restrictions apply to the number of credit hours that can be reduced for a master's degree, so students should carefully review the information provided in the link above and the related policies below.

In all cases, a reduction in hours must first be approved at the department or program level, so to begin the process for approval, students should consult with their DGS. Students must also provide documentation of the coursework or experience being used to justify the reduced hours (e.g. transcripts, program descriptions).

Because there is no minimum number of required hours for the Ph.D., reduction of required hours based on prior degrees or experience is determined solely at the program level. Doctoral students should consult with their DGS about their enrollment plan.

Count Toward Degree

The [Count Toward Degree form](#) is an Office of the Registrar Form that allows graduate credit hours taken at KU as a non-degree seeking student to count towards a later degree at KU.

As with transfer credit and reduced hour degrees, restrictions apply, so students should carefully review the information in the link above and the related policies below, and consult with their DGS.

Related Policies:

- [Graduate Credit](#)
- [Count Toward Degree Form](#)
- [Co-enrollment](#)
- [MA and MS Degrees](#) (on Reduced Hour Master's Degree)

Credit/No Credit

The University supports and encourages interdisciplinary study, which may include graduate students enrolling in coursework at the graduate level that is outside of their primary discipline. The Credit/No Credit (CR/NC) is an option for graduate students who are taking a course that is not required for their degree or certificate and who do not wish to have the course grade reflected in their overall graduate GPA. Rather than a grade appearing on the transcript, the student receives a designation of CR or NC, which does not factor in the GPA.

No course graded CR/NC will count toward the satisfaction of any graduate degree or certificate requirement. This includes, but is not limited to, courses taken to fulfill the Research Skills and Responsible Scholarship requirement for doctoral students.

Students make the CR/NC election via the Registrar's CR/NC [online request](#) form. Elections and changes to elections can only be made during the specific CR/NC period. For regular semester courses, this period begins after the last day to add a class and extends for approximately two weeks. Exact dates may be found on the current KU [Academic Calendar](#). Please keep in mind, short courses may have [alternate dates](#).

The student should consult with their own program advisor about the appropriateness of the course prior to enrolling; however, in cases where CR/NC is elected, the course instructor is not informed of the election unless the student chooses to share this information.

Additional restrictions apply. Students should carefully review the information in the link above.

Related Policies and Forms:

- [University Senate Rules and Regulations \(USRR\), Section 2.2.7](#)

[Probation & Dismissal](#)

Probation is an academic status that can be assigned to a graduate student that is not making [satisfactory progress](#) toward completing their degree. The department initiates the probation process and will inform the student of why they are not making satisfactory progress, what they must do to return to good standing, and the deadline for doing so.

Students are most commonly placed on probation due to their graduate cumulative [GPA dropping below a B average \(3.0 on a 4.0 scale\)](#). In these cases, probation occurs automatically and is reflected on the student's record for the semester following the semester in which the student's GPA drops below 3.0. If the student's cumulative GPA is raised to 3.0 by the end of the probationary semester, the student will be automatically returned to good academic standing.

Students may also be placed on probation by their departments for other reasons that constituting a failure to make satisfactory progress towards degree. These may include, but are not limited to; failure to make adequate progress on a thesis or dissertation, unacceptable academic performance on program components outside of coursework (e.g. exams), an unsatisfactory result in their department's annual evaluation, or as a result of going beyond their official time to degree. Students should carefully review the [Good Academic Standing policy](#) for graduate students at KU for more information on what constitutes making satisfactory academic progress.

Individual programs may also have additional measures of progress. Students should also consult the Annual Review section of their department graduate handbook and with their program advisor for more information.

If a student is unable to raise their cumulative GPA or otherwise meet departmental expectations for adequate academic progress by the end of the probationary period, the department will reconsider their continuation in the program, in most cases will recommend the student for dismissal, or that the student voluntarily withdraw from the program. Once dismissed, a student is no longer able to be enrolled in coursework and cannot complete their degree. Students dismissed from any graduate program may not be admitted to any other graduate program at the University of Kansas.

A student on probation or facing dismissal should discuss their status with their advisor.

Related Policies:

- [Academic Probation](#)
- [Dismissed Enrollment](#)
- [Probation and Dismissal \(CLAS\)](#)
- [Good Academic Standing policy](#)

Grading

The Office of Graduate Studies' [Grading policy](#) governs requirements for the grading of graduate students above those described in [Article II](#) of the University Senate Rules and Regulations. Additionally, individual schools, departments, or programs may have grading policies that are more stringent than those of Graduate Studies. Students should review the [College-specific grading information](#) and consult their adviser and the departmental section of this handbook for additional information that may affect them.

At minimum, for all graduate students at KU, at least a B average is required on course work counted toward any of the master's degrees at KU, and only courses graded A, B, or C (excluding C-) may be counted. Course work counted toward a doctorate, including that for a master's degree if obtained at KU, should average better than a B.

Additional information pertaining to graduate grading can be found on COGA's pages for [Retroactive Withdrawal](#), [Incomplete Grades](#), and [Graduate GPA](#). The Registrar's Office's also offers information on the [Credit/No Credit](#) option.

Related Policies:

- [University Senate Rules & Regulations](#)
- [Grading](#)
- [Academic Probation](#)
- [Dismissed Enrollment](#)
- [Probation and Dismissal \(CLAS\)](#)

Time limits

The University expects that master's degree should typically be completed in two (2) years of full-time study, the doctorate degree in five (5) years of study, and both the master's and doctorate together in six-seven (6-7) years of study.

Students who anticipate exceeding these targets should review the information in the link above and in the policies below, as well as consult with their program advisor to create a timeline for degree completion. In order to support this process, COGA offers departments and students a [Mentoring Agreement Template](#) to use and/or adapt to their own needs. The template may be used with students in danger of going beyond the program's expected time limits, or simply as an advising tool for all their students. It is especially useful for students in the dissertation or thesis phase.

Related Policies and Forms:

- [Master's Degree Program Time Constraints](#)
- [Doctoral Program Time Constraints](#)
- [Doctoral Comprehensive Exam Time Constraints](#)
- [Doctoral Program Profiles with Time To Degree Information](#)

- Graduate Degree Completion Agreement (Contact Graduate Coordinator)
- [Mentoring Agreement Template](#) (Doc)

Leave of Absence

In exceptional circumstances (e.g. cases of illness, emergency, financial hardship, military leave, to pursue family responsibilities, or to pursue full-time activities related to long-range professional goals) it may be necessary for graduate students to take a break from their program temporarily, without having to withdraw entirely from the program. An approved leave of absence allows a student to take a temporary break from enrolling in graduate coursework while remaining in good standing with the University and the department and while "stopping the clock" on their time to degree.

Requesting a Leave of Absence is done via a University petition. University petitions must first be approved and supported at the program level, so students wishing to initiate the petition process should first consult with their Director of Graduate Studies and review their department's internal petition procedures. Units or the Director of Graduate Study may request documentation to support the student's need for a leave of absence; however, the only document that the College requires for the petition is the Leave of Absence form, linked below.

Students on Leave of Absence are automatically reactivated after their leave is over and are eligible to enroll for their intended semester back during the normal enrollment periods. See the KU [Academic Calendar](#) for exact dates that enrollment begins.

If at any time plans change and a student wishes to return and enroll before leave was supposed to end they may contact their department to be reactivated early.

Related Policies and Forms:

- [Leaves of Absence](#)
- [CLAS Leave of Absence Petition Form](#) (PDF)

Oral Exams

All graduate students must complete one or more exams as part of their degree requirements. In addition to department or program guidelines, the University has several policies pertaining to the following exams:

- Master's Exam/Thesis Defense for Master's degree
- Doctoral Comprehensive Oral Exam
- Doctoral Final Exam/Dissertation Defense

Before a student is allowed to sit for any of these three exams, pre-approval from the College is required in advance of the exam date. The College verifies that the student has fulfilled University requirements. The full list of these requirements may be found via the link

in the heading above. Students should work with their departments well in advance of their planned exam date, to schedule their exams in a timely fashion and to ensure that all University policies relating to oral exams are being followed.

In many cases, programs may have additional exams, such as a written pre-qualifying exam. Exam pre-approval by the College applies ONLY to the oral portions of the three exams listed above.

The following are University policies pertaining to these oral exams:

Oral Exam Committee Composition

For all oral exams, the committee members must be appointed members of the Graduate Faculty of KU. In addition, a majority of committee members serving on a graduate student oral examination committee must be tenured/tenure-track faculty holding regular graduate faculty or, in the case of doctoral committees, dissertation faculty status in the candidate's department/program of study.

Many additional restrictions apply, especially for doctoral exam committees. Master's and doctoral students should carefully review the University policies pertaining to exams, as well as consult with their Director of Graduate Studies when forming an exam committee.

Oral Exam Attendance

All members of the exam committee must participate in graduate student oral examinations, which include the master's final oral exam, the doctoral comprehensive oral exam, and the doctoral final oral exam (i.e., dissertation defense). One or more members, as well as the student, may participate via video-conferencing technology.

A student's milestone outcome will not be influenced by any proceedings that take place without all members participating, either physically present or participating via-video-conferencing technology. If a committee member does not arrive or appear, the exam may not begin and if a committee member leaves, the exam may not proceed. Oral examinations that do not meet these attendance requirements are not valid.

All members of the examining committee must be aware of what transpires during the examination. All committee members must be able to participate fully in the discussion with the student and each other. All committee members shall have full access to all relevant exam materials.

Related Policies and Forms:

- [Master's Student Oral Exam Committee Composition](#)
- [Doctoral Student Oral Exam Committee Composition](#)
- [Oral Exam Attendance](#)
- [Graduate Faculty Appointments](#)

Doctoral Degree Requirements

In addition to the student's individual Ph.D. program's degree requirements, the following are University requirements for graduation with a Ph.D. at KU.

Residency Requirement

Graduate Studies' doctoral residency requirement can be met in one of two ways:

- Two semesters (fall and/or spring) of full-time enrollment in KU coursework as defined by Graduate Studies' full-time enrollment policy; OR,
- At least 18 hours of enrollment in KU coursework spread out over several part-time semesters

Related Policies and Forms:

[Engagement and Enrollment in Doctoral Programs](#)

[Full-Time Enrollment for Graduate Students](#)

Continuous Enrollment for Post-Comprehensive Students

During the semester in which the comprehensive exam is completed and each fall and spring semester follows, doctoral candidates must enroll in at least 6 credit hours per semester until all requirements for the degree are completed OR until 18 post-comprehensive hours have been completed, whichever comes first. At least one of these credit hours each semester must be a dissertation hour (or an approved dissertation equivalent).

During the semester in which the student will complete this requirement, enrollment may be dropped to only the number of hours required to complete the 18. For example, if a student is entering the fall semester having completed 15 post-comprehensive hours, only 3 credit hours (which must include at least 1 dissertation hour) is needed for that fall.

After fulfilling the post-comprehensive enrollment requirement, enrollment may be reduced to as little as 1 dissertation per fall or spring semester up to and including the semester of graduation.

Summer enrollment for post-comp doctoral students is optional, with some exceptions. See the information in the header link above for a list of exceptions.

Students are strongly advised to closely review the University regulations on continuous enrollment for post-comprehensive students. Failure to properly comply with the policy could result in additional enrollment requirements and tuition expense near the end of your degree program.

Post-comprehensive enrollment requirements also apply to students with GTA/GRA/GA appointments, but these students must be certified to drop their enrollment levels.

Departments are responsible for tracking student enrollment will submit the certification form on the student's behalf **at least two weeks prior** to the beginning of the semester in which the enrollment will drop below 6 hours. Students who are certified to reduce hours continue to meet the University's definition of full time enrollment, as well as the enrollment requirements of their employment contract.

Related Policies and Forms:

- [Doctoral Program Time Constraints](#)
- [Doctoral Candidacy](#)

Graduation Requirements (M.S. and Ph.D.)

In addition to all program requirements, students [planning to graduate](#) must complete all University graduation requirements **prior to the published Graduation Deadline** in a given semester. Students should consult the current [Academic Calendar](#) for the published Graduation Deadline, which varies by semester.

Upon scheduling their defense, students will automatically be enrolled in a graduation Canvas course. All degree requirements are stated and managed in this course. This should be your main point of contact for fulfilling the degree requirements.

Submission of the final draft of the thesis or dissertation is done electronically. Students must comply with all University requirements for [formatting](#) and [electronic submission](#) of the thesis or dissertation. There is no University requirement that students provide a bound or printed copy of the draft.

Students who have concerns or questions about fulfillment of graduation requirements may arrange for a Graduation Appointment with the [College Office of Graduate Affairs](#) (COGA) following the defense or final exam and in advance of the applicable Application for Graduation deadline. While this appointment is not a requirement, it can be useful to review all degree requirements with a COGA staff member, verify that the Application for Graduation and Thesis/Dissertation submissions have been completed, and receive guidance on any pending items.

Graduate Student Funding Opportunities

The Office of Graduate Studies offers [funding opportunities](#) in several different categories. Students interested in applying should direct inquiries to the department's Director of Graduate Studies or to the Office of Graduate Studies. Some of the available funding includes:

Dissertation Fellowships: intended for doctoral students who have passed their comprehensive examinations; for one academic year, non-renewable.

Summer Fellowships: intended primarily for doctoral students.

Graduate Scholarly Presentation Travel Fund: intended for graduate students presenting a paper at a national or regional meeting of a learned or professional society. A student may receive an award (\$500) only once, and funds are available on a first-come, first-served basis.

Doctoral Student Research Fund: Designed to support KU doctoral students who need assistance to carry out research that advances progress toward the degree. Applications for this fund are accepted only for a limited time as funding is available. Students should check the link above for additional information and restrictions.

Appendices

Appendix A: Campus Resources

New Arrivals

[Watkins Health Services](#)
[Counseling & Psychological Services](#)
[ADA Resource Center for Equity and Accessibility](#)
[Financial Aid](#)
[GradSense](#)
[Hilltop Child Development Center](#)
[KU Card Center \(for student identification card\)](#)
[Information Technology](#)
[KU Student Housing](#)
[Legal Services for Students](#)
[Parking and Transit \(for parking permits\)](#)

International Students

[Applied English Center](#)
[International Programs](#)
[International Student Services](#)

Individual, Social, & Health Resources

[Alumni Association](#)
[Career Center](#)
[Counseling and Psychological Services](#)
[ADA Resource Center for Equity and Accessibility](#)
[Emily Taylor Women's Resource Center](#)
[Sexuality & Gender](#)
[Graduate Student Advisory Board](#)
[Student Access Services](#)
[Watkins Health Services](#)
[Urgent Care Locations](#)
[Lawrence Memorial Hospital](#)
[Student Involvement and Leadership Center](#)
[Center for Community Outreach](#)
[Student Union Activities \(SUA\)](#)

Student Organizations

[SACNAS](#)
[Graduate Students of Color](#)

Academic Services & Resources

[Academic Achievement & Access Center](#)
[Office of Institutional Opportunity and Access](#)
[ADA Resource Center for Equity and Accessibility](#)
[Electronic Theses and Dissertations](#)
[Enrollment Guide](#)
[Hall Center for the Humanities](#)
[Institute for Policy & Social Research](#)
[Libraries](#)
[Office of Multicultural Affairs](#)
[Office of Study Abroad Travel Registry](#)
[Office of Research](#)
[Student Affairs](#)
[Writing Center](#) [University Ombuds](#)

Events & Activities

[Graduate Student Events](#)
[KJHK Radio 90.7](#)
[Lied Center](#)
[Murphy Hall Theatre](#)
[Natural History Museum](#)
[Spencer Museum of Art](#)
[University Daily Kansan \(UDK\)](#)
[Lawrence Arts Center](#)
[Lawrence Public Library](#)
[Parks and Recreation](#)
[Watkins Community Museum](#)

Veterans/Military Students

[Office of Veterans Services](#)
[Office of Graduate Military Programs](#)
[KU Collegiate Veterans Association](#)
[Alliance for Veteran Support](#)
[Veterans Upward Bound](#)
[Veterans Affairs Eastern Kansas Health Care System, Topeka](#)
[Veterans Affairs Eastern Kansas Health Care System, Lawrence](#)

Appendix B: Community Resources

Housing

[Craig's List for Lawrence](#)
[Lawrence Apartments](#)
[KU Housing](#)
[Realtor information](#)

Employment & Volunteering

[City of Lawrence Job Listings](#)
[Douglas County Job Listings](#)
[Lawrence-Journal World Job Listings](#)
[Craig's List of Lawrence Job Listings](#)
[Kansas City Star Job postings](#)
[Kansas City Non-Profit Companies' Job Listings](#)
[Kansas Works](#)
[KU Career Services](#)
[KU Job Listings](#)
[Kansas State Employment Center](#)
[American Towns.com Volunteer Search Engine](#)
[KU Center for Community Outreach](#)
[United Way of Douglas County](#)
[Volunteer Match](#)

Schools & Child Care

[Hilltop Child Development Center](#)
[Douglas County Child Development Association](#)
[Lawrence Public Schools USD 947](#)

Local Businesses & News

[Lawrence.com](#)
[Lawrence Journal-World Marketplace](#)
[Lawrence, KS Convention and Visitors Bureau](#)
[Lawrence Journal-World](#)
[Larryville](#)
[Lawrence.com](#)
[Kansas City Star](#)
[Topeka Capital-Journal](#)
[University Daily Kansan \(UDK\)](#)

Government Services

[Government of Douglas County](#)
[Lawrence Chamber of Commerce](#)
[Kansas Department of Revenue](#)
[Douglas County Treasurer](#)
[Voter Registration for Douglas County](#)

Personal Finance

[Money Management Services](#)
[Cost of Living Calculator](#)
[Budget Calculator](#)
[How to Improve Your Budget](#)
[IRS Guide to Taxes on Graduate Funding](#)
[Loan Repayment Information](#)

Please visit <https://graduate.ku.edu/community-resources> for links to each resource.

Appendix C: Advisor Declaration Form

Advisor Declaration Form

This Advisor Declaration Form is to be signed by both the student and the new advisor. It is the student's responsibility to obtain the required signatures on this form. The completed form should then be submitted to the Graduate Coordinator for record keeping. Should the student need to change advisors, the student will need to fill out an Advisor Termination Form and submit a new Advisor Declaration Form.

Student Name: _____

Student Signature: _____

Date: _____

Advisor Name: _____

Advisor Signature: _____

Date: _____

Start Date (If different from above date): _____

Appendix D: Advisor Termination Form

Advisor Termination Form

The Advisor Termination Form is to be signed by either the student or the former advisor. The completed form should then be submitted to the Graduate Coordinator for record keeping. If the student has reached candidacy, the student will have 4 months from the termination date below to find a new advisor. Once the student has found a new advisor they are required to submit a completed Advisor Declaration Form to the Graduate Coordinator. The new advisor may require the student to retake part of the comprehensive exam. Should the student fail to find a new advisor during the aforementioned 4-month period, the student may be put on academic probation.

Student Name: _____

Student Signature: _____

Date: _____

Advisor Name: _____

Advisor Signature: _____

Date: _____

Termination Date (if different from above date): _____

Appendix E: Course Substitution Form

Department of Physics and Astronomy

Graduate Committee Petition – Course Substitution

Name: _____ Student ID # _____

KU COURSE (and class number): _____

University at which you took class you want to transfer: _____

Course name and number: _____

Instructor: _____

Grade: _____

Date taken: _____

Book used: _____ Chapters: _____

Course description:

Please attach syllabus and any additional information you think may help the committee make its decision.

For questions, contact the Graduate Coordinator.

Appendix F: Comprehensive Exam Checklist

Student Name: _____

Date: _____

Examining Committee Members:

Comprehensive Exam Checklist

	Unsatisfactory	Basic	Intermediate	Advanced
Description of Research Areas				
Formulation of Hypothesis				
Design of Experiment and Calculations				
Knowledge of General Physics				

Honors: Yes ___ No ___

Appendix G: Dissertation Defense – Exam Outcome Form

EXAM OUTCOME FORM

DEPARTMENT OF Physics and Astronomy

Please complete and submit to the departmental graduate secretary immediately following the exam.

Student Name: _____ Student ID# _____

Ph.D. Final Defense

Exam Outcome (circle one): HONORS SATISFACTORY UNSATISFACTORY

Revisions required

Revisions must be completed by the following date, which must be within 6 months of oral defense _____.

Committee Chair: _____

Signature: _____ Date: _____

Outside Member/

Graduate Studies Representative: _____

Signature: _____ Date: _____

Appendix H: M.S. Defense Checklist

Please return completed form to Graduate Coordinator after the defense. Do NOT include the name of the student defending or the names of the committee members. This information is for program development and will not be kept as part of the student's record.

MS Defense Checklist

	Unsatisfactory	Basic	Intermediate	Advanced
Description of Research Areas				
Formulation of Hypothesis				
Methodology				
Knowledge of General Physics				

Circle one: Pass with Honors / Pass / Fail

Circle one: Fall / Spring / Summer

Year: _____

Appendix I: Ph.D. Defense Checklist

Please return completed form to Graduate Coordinator after the defense. Do NOT include the name of the student defending or the names of the committee members. This information is for program development and will not be kept as part of the student's record.

PHD Defense Checklist

	Unsatisfactory	Basic	Intermediate	Advanced
Description of Research Areas				
Formulation of Hypothesis				
Design of Experiments and/or Calculations				
Scientific Contribution to the field				

Circle one: Pass with Honors / Pass / Fail

Circle one: Fall / Spring / Summer

Year: _____

Appendix J: Oral Presentation Form

Department of Physics & Astronomy

Oral Presentation Form

STUDENT NAME: _____

DATE: _____

TITLE: _____

VENUE: _____

FACULTY:

Print Name: _____ Signature: _____

FACULTY/Ph.D.:

Print Name: _____ Signature: _____

All graduate students must give a talk with at least one faculty and one Ph.D. doing research in the department every semester that they are enrolled.

Please complete the form and return to the Graduate Coordinator in the department office.