

# Graduate Handbook

Department of  
**Physics & Astronomy**

Photo by Karl Ahrendsen

UNIVERSITY OF  
**Nebraska**  
Lincoln

## Table of Contents

|  |    |
|--|----|
| Introduction.....  | 2  |
| Getting Started.....                                       | 3  |
| Graduate Program Organization .....                        | 4  |
| Graduate Committee .....                                   | 4  |
| Advisor .....  | 4  |
| Supervisory Committee.....                                 | 4  |
| Programs of Study.....                                     | 5  |
| All Physics Degree Programs.....                           | 5  |
| M.S. Degree Program.....                                   | 6  |
| Ph.D. Degree Program .....                                 | 7  |
| General Program Information .....                          | 11 |
| Assistantships – General Information.....                  | 15 |
| Teaching Assistantships – Duties and Procedures.....       | 18 |
| Duties.....  | 18 |
| Procedures.....  | 20 |
| TAs for International Students .....                       | 21 |
| Department Information.....                                | 22 |
| Communication .....  | 22 |
| Copying.....   | 23 |
| Business Office .....                                      | 24 |
| Facilities.....  | 26 |
| Access.....  | 26 |
| Buildings, Offices, and Rooms.....                         | 26 |
| Appendix A. Academic Dishonesty.....                       | 29 |
| Appendix B. TA Responsibilities.....                       | 30 |
| Appendix C. Personal Safety & Health .....                 | 33 |
| Appendix D. Firefly.....                                   | 36 |
| Appendix E. Academic Leave of Absence .....                | 37 |
| Appendix F. Useful Departmental Contact Information .....  | 40 |
| Appendix G. Course Availability & Planning Checklist ..... | 41 |

## Introduction

Welcome! We are happy that you have decided to pursue your graduate studies at the University of Nebraska-Lincoln. Graduate students play an integral role in the department. We hope that this guide will help you negotiate the maze of paperwork and procedures that are essential to life at a university.

Throughout your time as a graduate student in our department, faculty and staff are available to help you with academic and non-academic concerns. Please feel free to call on us if you need advice or help.

With the success of our students in mind, we have prepared this handbook to help you make the most of your UNL experience and reach your full potential. This handbook outlines the policies and procedures of our department. It is your responsibility to be familiar with the information presented in this handbook and to know and observe all regulations and procedures relating to the degree you are pursuing. All graduate students should use it as a reference throughout their program. **Keep in mind this handbook is not a replacement for the current [UNL Graduate Studies Catalog \(https://catalog.unl.edu/graduate-professional/graduate/\)](https://catalog.unl.edu/graduate-professional/graduate/)**, which contains current information on graduate program requirements, thesis guidelines, and deadlines at the Graduate Studies level.

The information in this handbook and other University catalogs, publications, or announcements is subject to change without notice. In no case will a regulation be waived or an exception granted because a student pleads ignorance of, or contends that he or she was not informed of, the regulations or procedures. A student planning to graduate should be familiar with the dates relating to application for graduation and other pertinent deadlines. University offices can provide current information about possible changes, and students should visit the UNL Graduate Studies [website \(http://www.unl.edu/gradstudies\)](http://www.unl.edu/gradstudies) for the most current information.

## Getting Started

To get started at the university, check your profile in MyRed (you uploaded your transcript through this program when you applied) to make sure the university has your current Lincoln address, phone number, and email. You should always keep your most current information and emergency contact information updated with the Graduate Program Associate in the Department of Physics and Astronomy as well as in MyRed.

All incoming graduate students need to request an @huskers.unl.edu email address. If you do not already have one of these addresses, go to <http://huskers.unl.edu/liveedu/> and request one. This email address is a convenient way for undergraduates to contact their Teaching Assistants (quite possibly you) and will be needed for travel on department business (i.e. attending conferences). Students are able to use their @huskers.unl.edu email address after they complete their degree at UNL.

The following checklists were prepared by the Office of Graduate Studies to help you orient yourself to graduate school. You will need to meet with your academic advisor (to choose which classes to enroll in.) The enrollment process is all online, and you will complete it through MyRed.

**Domestic Students:** Follow the checklist on the Office of Graduate Studies' website at <http://www.unl.edu/gradstudies/welcome/checklist?us>

**International Students:** Follow the checklist on the Office of Graduate Studies' website at <http://www.unl.edu/gradstudies/welcome/checklist?i>

## Graduate Program Organization

### Graduate Committee

The mission of the Graduate Committee is to maintain excellence in the departmental graduate program. The Graduate Committee consists of various faculty members, including the Chair, who are appointed by the Department Chair. The Committee deals with program policies and student concerns. The Graduate Committee Chair leads the activities of the committee and signs various student forms. An offshoot of the Graduate Committee, the Graduate *Admissions* Committee, reviews applications and approves admission to the graduate program.

### Advisor

Each graduate student is assigned an academic advisor by the Graduate Committee Chair during their first semester in our department. This advisor will be a member of the department's Graduate Committee and will advise the student until his or her Ph.D. Supervisory Committee is formed. At that time the Supervisory Committee Chair will become the student's advisor. Students are, of course, encouraged to seek advice from any member of the faculty at any time.

### Supervisory Committee

The primary function of the Supervisory Committee is to assist the student in developing a Ph.D. program of study compatible with the goals of the student. In addition, the Supervisory Committee will also monitor the progress of the student and provide counsel if problems arise during the program. The Supervisory Committee ultimately functions to ensure that the student has reached a satisfactory level of academic and research achievement prior to conferring the Ph.D. degree. See the **Ph.D. Degree Program** section below for more details.

A Supervisory Committee is not required for an M.S. degree in our department. See the **M.S. Degree Program** section below for more details.

## Programs of Study

### All Physics Degree Programs

**Preliminary Exam:** Entering students are required to take a Preliminary Exam during their first week on campus in August prior to registering for classes. This exam, which is also required for Ph.D. candidacy, will be used to assess the level of their knowledge of undergraduate physics. It will also aid the Graduate Committee in giving them advice about which courses to take during their first semester.

The exam will be offered twice a year: after the end of the spring semester and before the beginning of the fall semester. Students joining the program in the fall semester will take this exam as a placement exam prior to their first semester of study. Students who join the program in the spring semester will first take this exam at the end of the spring semester of study. Depending on the outcome, the Graduate Committee may recommend or require the student to take selected 800-level courses before the corresponding 91X courses. Students may take the exam up to three times and must pass it before the beginning of their second academic year. Examples of past exams can be found at: <https://www.unl.edu/physics/preliminary-examination-examples>.

**General Information:** The Department of Physics and Astronomy offers graduate education leading to the degrees of Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) in Physics. The department has a flexible program of graduate study that can easily accommodate students with a variety of goals and backgrounds. In designing their M.S. and Ph.D. programs, students should consult with their academic advisor and Supervisory Committee as well as refer to the Graduate Studies Catalog. Course descriptions and Office of Graduate Studies minimum requirements are presented in that catalog.

The time required for obtaining a degree should be kept to a minimum, giving due consideration to the student's background and particular subfield of specialization. During the first and second years of graduate study, an adequately prepared student will take most of the formal courses in the program. For well-prepared and motivated students, the times needed to obtain an M.S. degree and a Ph.D. degree should be about two years and five years respectively.

Students must complete the following to obtain a graduate degree in physics:

- Obtain admission to the UNL Graduate College and the Department of Physics and Astronomy.
- Pass the Preliminary Exam on undergraduate-level physics.
- Complete all required coursework with an adequate GPA (see below).

Learning foreign languages can be valuable both personally and professionally. Although the Physics and Astronomy Department has no general foreign language requirement, individual Supervisory Committees may include a language requirement in the student's program if they feel it is appropriate.

Each student is responsible for knowing the requirements of their degree program as specified in the Graduate Catalog found on the Office of Graduate Studies website here: <https://catalog.unl.edu/graduate-professional/graduate/>. Forms and specific dates needed to meet graduation deadlines, schedule final examinations, deposit final copies of a thesis or dissertation, etc. are also obtained from the Office of Graduate Studies' website. These requirements are not discussed in this handbook. The faculty of the Department of Physics and Astronomy has approved the departmental requirements outlined in the following sections of this handbook.

## **M.S. Degree Program**

The master's program of the Department of Physics and Astronomy follows and meets all of the requirements set forth for a Master's (M.S.) degree by the Office of Graduate Studies. Most graduate students who wish to receive an M.S. in the Department of Physics and Astronomy receive their M.S. *en route* to receiving their Ph.D. Students who wish to get an M.S. degree in our department must:

- File a Memorandum of Courses before finishing one half of the course work for the M.S. degree. For most students this should be done during the second semester of their studies. A student may not file a Memorandum of Courses and graduate in the same semester or summer session.  
<https://www.unl.edu/gradstudies/current/degrees>
- Students have 10 years from the oldest course listed on the Memorandum to complete the degree. Courses exceeding this limit may not be used toward a master's degree.
- Pass the M.S. Comprehensive Examination (usually comprising only course grades; see below) and apply for the degree.
- Complete a thesis if chosen/required (see below for more details).

**Coursework:** A permission code is required to register in all PHYS 81X and 91X courses. Students are expected to discuss the courses they wish to take with their assigned academic advisor. If the advisor agrees with the student's choices, a permission code allowing the student to register for the courses may be issued. This is done by the student emailing [paoffice@unl.edu](mailto:paoffice@unl.edu) and copying the student's advisor (add the advisor's email address into the "Cc" address line or adding it to the "To" address line). In the email, the student is to request a permission code(s) and include: 1) their name and NUID, 2) course(s) requested, and 3) their advisor's name.

**Students are not allowed to enroll in any course other than the required ones unless they have requested and obtained explicit permission from their advisor or supervisor.**

In addition to the requirements given in the Graduate Studies Catalog, a candidate for an M.S. degree must pass (grade  $\geq$  C) the following courses:

PHYS 811: Methods in Theoretical Physics I  
PHYS 911: Classical Mechanics  
PHYS 913: Electromagnetic Theory I  
PHYS 916: Quantum Mechanics I  
PHYS 998: Special Topics in Current Research and Professional Development  
(PHYS 998 should be taken in both fall and spring semesters)

plus one of the following courses:

PHYS 912: Statistical Physics  
PHYS 914: Electromagnetic Theory II

**M.S. Comprehensive Examination:** Students with an average GPA of 3.00 or above in PHYS 911, 912 (or 914), 913, and 916 may be awarded an M.S. degree *en route* to a Ph.D. without being required to write a Master's Thesis. This is listed as "Option III" in the Graduate Catalog on the Graduate Studies website.

Students with a cumulative GPA below 3.00 but at least 2.50 in the above stated courses will be able to obtain the M.S. degree by defending a Master's Thesis and passing an oral and/or written exam as determined by the Graduate Committee. This is listed as "Option I" in the Graduate Catalog.

Students with a cumulative GPA in all courses below 2.50 for two consecutive semesters may be dismissed from the program.

## Ph.D. Degree Program

The doctoral program of the Department of Physics and Astronomy follows and meets all of the requirements set forth for a Doctor of Philosophy (Ph.D.) degree by the Office of Graduate Studies. Graduate students pursuing a Ph.D. in the Department of Physics and Astronomy must:

- Complete 91X courses (excluding 918) with a GPA of 3.00 or higher and have a cumulative GPA  $\geq$  3.00 in all required courses at the time of graduation.
- Form a Supervisory Committee.
- File a Program of Studies approved by the Supervisory Committee before finishing one half of the course work for the Ph.D. degree (45 credit hours).
- Pass the Ph.D. Comprehensive Examination at least 7 months (but not longer than 3 years) prior to the final oral examination on the dissertation.
- Complete a dissertation, including an oral defense of the dissertation.



**Coursework:** A permission code is required to register in all PHYS 81X and 91X courses. Students are expected to discuss the courses they wish to take with their assigned academic advisor. **Reminder:** after the Supervisory Committee is formed, the assigned academic advisor will be the Supervisory Committee Chair. If the advisor agrees with the student's choices, a permission code allowing the student to register for the courses may be issued. This is done by the student emailing [paoffice@unl.edu](mailto:paoffice@unl.edu) and copying the student's advisor (add the advisor's email address into the "Cc" address line or adding it to the "To" address line). In the email, the student is to request a permission code(s) and include: 1) their name and NUID, 2) course(s) requested, and 3) their advisor's name.

**Students are not allowed to enroll in any course other than the required ones unless they have requested and obtained explicit permission from their advisor or supervisor.**

The required courses for every student seeking a doctoral degree are:

PHYS 811: Methods in Theoretical Physics I  
PHYS 911: Classical Mechanics  
PHYS 912: Statistical Physics  
PHYS 913: Electromagnetic Theory I  
PHYS 914: Electromagnetic Theory II  
PHYS 916: Quantum Mechanics I  
PHYS 917: Quantum Mechanics II  
PHYS 918: Quantum Mechanics III  
PHYS 998: Special Topics in Current Research and Professional Development  
(PHYS 998 should be taken in both fall and spring semesters)

plus three of the following four introductory survey courses:

PHYS 925: Introduction to Atomic and Molecular Physics  
PHYS 926: Introduction to Elementary Particle and Nuclear Physics  
PHYS 927: Introduction to Solid State Physics  
PHYS 928: Introduction to Plasma Physics

plus at least one additional mathematics course, chosen in consultation with an advisor.

Some acceptable courses are:

PHYS 812: Methods in Theoretical Physics II  
PHYS 813: Methods in Theoretical Physics III (Group Theory)  
MATH 824: Introduction to Partial Differential Equations  
MATH 935: Advanced Methods of Applied Mathematics I  
MATH 936: Advanced Methods of Applied Mathematics II

Students with little or no laboratory experience as undergraduates are urged to take PHYS 231: Electrical and Electronic Circuits I and/or one of the Advanced Laboratory Courses, PHYS 841-843.

The order in which a fully prepared student should take these courses is:

**FIRST YEAR**

| Fall Semester  | Spring Semester  |
|--|--|
| PHYS 811 - Methods in Theoretical Physics I                                      | PHYS 914 - Electromagnetic Theory II   |
| PHYS 911 - Classical Mechanics   | PHYS 916 - Quantum Mechanics I   |
| PHYS 913 - Electromagnetic Theory I  | MATH Elective  |
| PHYS 998 - (1/2) Special Topics in Current Research and Professional Development | PHYS 998 - (2/2) Special Topics in Current Research and Professional Development |

**SECOND YEAR**

| Fall Semester                   | Spring Semester                              |
|---------------------------------|--|
| PHYS 912 - Statistical Physics  | PHYS 918 - Quantum Mechanics III             |
| PHYS 917 - Quantum Mechanics II | PHYS 92X                                     |
| PHYS 92X                        | PHYS 92X - (usually taken in the third year) |

**NOTE:** In the tables above, courses are listed in the semester in which they are usually given. It may be necessary to wait until the third year to finish the introductory course sequence (PHYS 925, 926, 927, and 928).

Normally PHYS 811, 911, 912, 913, 914, 916, and 917 will be offered once each year.

PHYS 918, PHYS 812 and 813 (Methods in Theoretical Physics II and III), and PHYS 925, 926, 927, and 928 (the survey courses) are offered at least once every two years.

All beginning graduate students must take PHYS 998 (Special Topics in Current Research and Professional Development) in both fall and spring semesters. This is a 1-credit hour course introducing students to the research activities in the department.

Students participating in research may register for the following:

- PHYS 899 (Master's Thesis)
- PHYS 996 (Research Other Than Thesis)
- PHYS 999 (Doctoral Dissertation). **You must form your Supervisory Committee before enrolling in PHYS 999.**
  - A minimum of 12 hours and a maximum of 55 hours of PHYS 999 may be taken in the Ph.D. program. Contact Graduate Studies ([graduate@unl.edu](mailto:graduate@unl.edu)) if you have exceeded this number and are filling out your Program of Studies.

**PHYS 899, 996, & 999 Permission Codes:** Students wishing to enroll in the above research courses will need to obtain permission codes. This is done by sending an email request to [paoffice@unl.edu](mailto:paoffice@unl.edu). **The student's supervising professor must be copied on the email.** Contents of the email request must include the following:

- Student's name
- Student's NUID
- Supervisor's name (also put supervisor's email in the email address line)
- Name of course (PHYS 899, 996, or 999) and the semester to enroll in
- Number of credits the student wants to register for

Again, the supervising professor must be copied on this email and will give the grade (Pass/No Pass) at the end of the semester.

**Ph.D. Supervisory Committee:** As soon as a student has completed the required Ph.D. coursework satisfactorily and **prior to the completion of 45 credit hours**, a Supervisory Committee should be formed to guide dissertation research. A convenient timeline, instructions, and links to forms required by Graduate Studies is found at <http://www.unl.edu/gradstudies/current/degrees/doctoral>. Other requirements for forming a Supervisory Committee are as follows:

- A minimum GPA of 3.00 in the 91X courses (excluding PHYS 918 – Quantum Mechanics III) is required for Ph.D. candidacy. The student must have a cumulative GPA of 3.00 in all required courses to receive a Ph.D.
- Students may take required courses no more than twice.
- Students may not withdraw from courses without permission of the Graduate Committee. See the **Withdrawal from Courses** section below.
- The Supervisory Committee should consist of at least four members including the student's research advisor as well as an outside representative from another department in the University.

**Program of Studies:** A complete Program of Studies approved by the Supervisory Committee must be filed with the Office of Graduate Studies (SEH 1100). This should be completed and returned to Graduate Studies in the same semester that the Supervisory Committee is formed. A link to the Program of Studies form can be found on the Graduate Studies website.

**Ph.D. Comprehensive Exam:** A written Comprehensive Examination of each doctoral applicant is required by the Graduate College. The examination may also include an oral presentation and examination. This examination is administered by the student's Supervisory Committee and will normally be a written report based on approximately one week of intensive research on a subject approved by the Supervisory Committee. It is expected that this topic will be in the general area of the student's dissertation (e.g., AMOP, HEP, etc.), but will not be a simple extension of their dissertation research topic.

An "Application for Admission to Candidacy" form must be filled out, signed, and taken to Graduate Studies once the Ph.D. Comprehensive Examination is passed. This form can be found on the Graduate Studies website. Following admission to Candidacy, the student must register for at least one credit hour during each academic-year semester until the doctoral degree is conferred, even if the student has already met the total dissertation hours in his/her approved program of study.

**Ph.D. Dissertation:** All Ph.D. students must write a dissertation. The dissertation must be completed between seven months and three years following the passing of the Ph.D. Comprehensive Exam. In addition to the written dissertation, an oral defense of the research is required. The "Application for Final Oral Exam" form should be filed with the Office of Graduate Studies (SEH 1100) no less than two weeks prior to the scheduled defense.

Specifics concerning the organization and preparation of the document are published in the Graduate Catalog. Additional information on form and style can be obtained from the "Guidelines for Preparing your Thesis or Dissertation" available from the UNL Office of Graduate Studies. Due dates for the relevant academic year can also be obtained from the Graduate Studies website.

## **General Program Information**

**Evaluation of Student Progress:** Students are expected to make timely progress toward their degree objective. Each student will be informed periodically by letters from the Graduate Committee and by their advisors of the faculty's evaluation of their progress. Some issues that are considered by the faculty when evaluating a student's progress are as follows:

- Is the student taking a full load of substantive courses relevant to his or her degree?
- Is the student's grade point average (GPA) in all required graduate courses a B (3.00) or higher?
- Does the student show interest in current research through attendance at colloquia, seminars, and discussions with faculty members?
- Has the student started his or her research training at the appropriate time?

**Grades and the Honor System:** Students seeking a Ph.D. are required to have a B average (GPA of at least 3.00) in the courses taken to satisfy the degree requirement. No special seminar or research course grades will be included in the calculation of this grade average. In some graduate courses, a grade of P will be given to indicate passing work. It is important to understand that in all PHYS 900-level courses, a grade less than a C is considered to be failing; in 800-level courses, a passing grade is B or higher unless there is no 300- or 400-level equivalent, in which case the passing grade is C. Students receiving grades of D or lower, or those who have failed more than one course in a given semester will be put on academic probation.

A student put on academic probation for these reasons who fails to significantly improve his or her grades during the next semester is at substantial risk of being dismissed from the program. Students with a cumulative GPA less than 2.50 will be put on academic probation. If they fail to raise their cumulative GPA above 2.50 in the next semester, they may be dismissed from the program. Any student earning failing grades (as explained above) is strongly urged to discuss their academic performance with their assigned graduate advisor.

If a student fails a required course, he or she must retake it to remain in the program. No course may be taken more than twice. Cumulative grade point averages will be based on the highest grade a student receives in a given course. Required courses may not be taken on a Pass/No Pass basis.

In general, students should select a research group to join by the middle of the spring semester of their first year and, if possible, be a Research Assistant (RA) in that group during the summer after the first academic year. It is important for the student to realize that, until they have finished their required course work, their first priority is coursework, not research.

Students are expected to abide by the honor system for examinations and for other assignments. For example, if an instructor gives a take-home or other examination and a student obtains assistance on the examination from written or verbal sources not explicitly approved by the instructor, the student is in violation of the University's Code of Conduct.

**Registering for Courses:** Graduate students are expected to register for courses during early registration. This is done through MyRed. If there is some reason why registration cannot be accomplished at that time, the Graduate Chair and Main Office should be notified via email.

- **Waiving Courses** - Students who wish to waive one or more courses should contact the Graduate Chair.
- **Transfer Hours** – Students may use graduate credit hours received from an accredited institution other than UNL to fulfill up to half of the total credit hours on the Program of Studies required by the Supervisory Committee to meet the degree requirements for a Ph.D.

**Withdrawal from Courses:** Students may not withdraw from courses required for the graduate degree they are pursuing without explicit, written permission from the Graduate Committee.

We follow the Academic Calendar (<http://registrar.unl.edu/academic-calendar>) to define the deadlines for early and late withdrawals. The early withdrawal deadline is defined in the Academic Calendar as the “Last day to file a drop to remove course from student’s record.” The late withdrawal deadline is defined as the “Last day to withdraw from one or more courses for the term.”

The consequences of a withdrawal are as follows:

- On or before the early withdrawal deadline: The course has not been taken, and no grade will be recorded.
- On or before the late withdrawal deadline: The course has been taken, and a grade of W will be recorded. This W will be disregarded in GPA calculations. Required courses may only be taken twice; late withdrawal counts as one of the two attempts.
- After the late withdrawal deadline: No withdrawal is allowed.

**Commencing Research:** Among other topics, PHYS 998 includes 10 or more lectures by our faculty on their research programs. This course must be taken during the first year of a student’s residency unless permission to take it in the second year is granted by the Graduate Committee.

Students are encouraged to register for non-thesis research (PHYS 996). A brief summary of the research interests of the faculty is presented on the Physics and Astronomy website; in the department’s listing in the American Institute of Physics’ (AIP) annual book entitled Graduate Programs in Physics, Astronomy, and Related Fields; and in the insert from GradSchoolShopper, containing the information from the AIP book.

**Distribution of M.S. and Ph.D. Theses and Theses Abstracts:** Two unbound copies of each thesis should be given to Love Library. Graduate students and/or their advisors are also asked to distribute to faculty and other graduate students a copy of the M.S. or Ph.D. Thesis Abstract to better inform the faculty of student progress and to acquaint graduate students with the research being carried out in the department.

**Colloquia and Seminars:** All graduate students are strongly encouraged to attend colloquia. Departmental colloquia are an important part of graduate student education and help to provide students with knowledge of a broad range of topics in physics and astronomy. Colloquium speakers are specifically told that graduate students are a primary audience. As your research interests develop, you are encouraged to attend seminars, which are more technical talks in specific subfields.

Departmental colloquia take place on most Thursdays during the fall and spring semesters, and they are generally scheduled at 4:00 p.m. in room JH 136. Refreshments will be available in the vending machine area on the first floor of Jorgensen Hall from 3:30 p.m. to 4:00 p.m.

**Academic Dishonesty:** Graduate students in the Department of Physics and Astronomy display a high level of integrity when carrying out classroom assignments and when working on examinations or thesis research. The purpose of this discussion is to make sure that students are fully informed of faculty expectations in this regard. A more complete discussion of what constitutes academic dishonesty and the possible penalties for such dishonesty may be found in the Graduate Catalog issued by the Graduate Studies. This section of the Graduate Student Handbook summarizes some of the main points made in the Graduate Catalog regarding academic dishonesty and clarifies some issues regarding penalties for engaging in academic dishonesty. Penalties for academic dishonesty are discussed in Appendix A. Refer to the current Graduate Catalog for a more complete description.

Any student found guilty of academic dishonesty shall be subject to both academic and disciplinary sanctions. Academic dishonesty includes, but is not limited to, the following:

- **Cheating.** Copying or attempting to copy from an academic test, examination, or assigned work of another student; using or attempting to use unauthorized materials, information, notes, study aids or other devices for any academic test or assignment.
- **Fabrication and Falsification.** Falsifying or fabricating any information or citation in any academic exercise, assignment, or examination. Falsification is the alteration of information, while fabrication is the invention or counterfeiting of information.
- **Plagiarism.** Presenting the work of another as one's own (i.e., without proper acknowledgement of the source) and submitting examinations, theses, reports, or other academic work in whole or in part as one's own when such work has been prepared by another person or copied from another person.
- **Abuse of Academic Materials.** Destroying, defacing, stealing, or making inaccessible library or other academic resource material.
- **Complicity in Academic Dishonesty.** Helping or attempting to help another student to commit an act of academic dishonesty.
- **Falsifying Grade Reports.** Changing or destroying grades, scores, or markings on an examination or in an instructor's records.
- **Misrepresentation to Avoid Academic Work.** Fabricating an excuse such as illness, injury, accident, etc., in order to avoid or delay timely submission of academic work or to avoid or delay the taking of an examination.

**Student Code of Conduct:** Please refer to the university's policy regarding professional conduct and student code of conduct within the program at <http://stuafs.unl.edu/dos/code>

## Assistantships – General Information

**Registration Requirement / Full-Time Status:** The department requires that all graduate students holding either a teaching or a research assistantship (TA or RA) be registered as a full-time student (9 credit hours) during each semester of the academic year.

During the summer semester (June and July), students are not required to register for credit hours to maintain graduate student status. However, if they do not register for at least a total of 4 credit hours over the summer sessions, Social Security and Medicare taxes will be withheld from their paychecks. For more information see *Social Security & Medicare Taxes* section below. In addition, graduate students not enrolled for credit hours during the summer may not have access to some campus facilities or services during that time (i.e. online libraries, the recreation center, etc.)

If a student has been granted Candidacy (see *Ph.D. Comprehensive Exam* under the Ph.D. Degree Program section above), only one credit hour each semester is required to be a full-time student. For more information, see <http://www.unl.edu/gradstudies/current/degrees/doctoral>.

**Getting Paid:** The salary for your graduate TA and/or RA assistantship for the academic year (August – May) is paid out in ten equal monthly payments on the last business day of each month beginning in August and ending in May of the following year. If your appointment is for one semester only, your stipend will be paid out in five equal monthly payments.

Summer TAs (not RAs) result in an unusual pay schedule. At the end of June, TAs get paid for the first half of the first 5-week session. The July paycheck includes the second half of the first 5-week session and the first half of the second 5-week session. In August, TAs get paid for the second half of the second 5-week session. TAs and RAs for the regular academic year will also receive their regular monthly salary on their August paycheck. See Appendix D for information on viewing your pay advice online. See the Graduate Program Associate for questions about paychecks.

**Limitations of TA Support:** In order to improve research productivity, decrease the average length of graduate study, and mitigate potential problems arising from the minimum class size policy, the department limits the extent of TA support as follows:

- All students are restricted to 12 semesters of full-time TA support after enrolling with a B.S. degree (or UNL equivalent), and eight semesters of full-time TA support after enrolling with an M.S. degree (or UNL equivalent). Support during the summer is not restricted.



- If funding is available, students making satisfactory progress will be guaranteed 10 semesters of full-time TA support toward the Ph.D. degree (six semesters if entering with an M.S. degree) or five semesters toward the M.S. degree. Beyond these limits, support will be granted only at the convenience of the department.

### **Tuition Credit:**

Academic Year (August – May): To be eligible for tuition waiver, graduate students must have an assistantship or a combination of assistantships that have a combined FTE (Full-Time Equivalent) of at least 33% (13 hours per week) and remain in the assistantship for at least 120 days each semester. Tuition is waived for up to 12 credit hours each semester.

Summer (June – July): Students who have a graduate assistantship during the academic year may receive tuition credit during the following summer sessions. The amount of tuition credit depends on the level of the academic year graduate assistantship stipend. First year graduate assistants who begin their academic program in the spring semester must provide proof of appointment for the following year to receive a special tuition waiver for summer tuition credit during their first year in the program. Details are available from the Graduate Committee Chair or the Graduate College.

**Social Security & Medicare Taxes:** Some graduate students unnecessarily pay Social Security (FICA) and Medicare taxes on their summer income (June & July). This can be avoided:

- International students here on an F-1 or J-1 visa generally do not pay Social Security and Medicare taxes for the first five years they attend UNL. Those on F-2, H-1, H-2, or J-2 generally do pay Social Security taxes. For further information, consult the Payroll Office.
- Domestic students (and international students in our program for longer than five years) who have a graduate teaching or research assistantship do not pay Social Security and Medicare taxes provided they have half-time status. This means they must be registered for a total of four credits over the course of the summer. Be sure to register for all four credits hours no later than June 1 to avoid paying Social Security and Medicare taxes in June. Social Security and Medicare taxes withdrawn from paychecks cannot be reimbursed.

**Health Insurance:** Any student registered for at least 3 credit hours each semester is eligible to purchase health insurance. Graduate assistantships of at least 33% FTE (Full-Time Equivalent) will automatically provide basic individual student health

insurance at a reduced rate. The student and the University will share in the cost of the premium. Approximately 21% of the annual cost of the health insurance premium will be billed directly to the student's account. Students are notified at a later date of the amount for which they will be responsible. If a student does not require the University health insurance, the student needs to complete a Waiver of Insurance form online each semester. If the Waiver of Insurance has not been submitted within 14 days of the start of the semester, the student's account will be charged for the basic student health insurance.

The student also has the option of purchasing additional health insurance for family members from the same plan by contacting the business office at the University Health Center. International students are always required to have student health insurance coverage, unless proof of comparable insurance from an outside source is provided.

**Termination of Assistantship:** If the student wishes to terminate the assistantship, a 30-day written notice must be given. Likewise, if the Department decides to terminate the assistantship, the student will be given a 30-day written notice. If the assistantship is terminated before the student completes 120 continuous days of employment within the semester dates, all tuition and health benefits will be forfeited and the entire cost for those benefits for that semester will be billed to the student.

## Teaching Assistantships – Duties and Procedures

### Duties

Teaching Assistants (TAs) make essential contributions to the department's teaching program. They are among the few instructors from whom a student obtains guidance in the study of physics and astronomy. These duties are described in more detail in the memo entitled, "Teaching Assistant Duties," which is issued by the Vice Chair each August. Please see Appendix B for a recent copy of this memo.

A full teaching load for a TA includes:

- Teaching of three laboratory sections, six recitations, or some other equivalent assignment. Depending on the department's schedule of courses, the assignment may be split in a number of ways. Every effort will be made to schedule a teaching assistant in only one course, but this is not always possible. Attendance at laboratory briefings scheduled by the Laboratory Manager is required of students with lab sections.
- Tutoring of undergraduate students taking introductory physics courses (i.e. PHYS 115, 141, 142, 151, 211, 212, 213, 260 and 261) for one hour per week. TAs are to be present in the Physics Resource Room (JH 253) during the entire assigned hour and are to be prepared to assist the undergraduates with the questions they are likely to ask. TAs should feel free to seek help from others if needed.
- Proctoring of examinations. Proctoring assignments are made at the beginning of each semester. It is your responsibility to contact the professor or instructor for whom you will be proctoring to receive information about the assignment.
- Grading of examinations. Course lecturers are to distribute the grading work load equitably among TAs assigned to them, taking into account the number of recitation sections taught by each instructor.

According to the Bylaws of the Board of Regents it is the responsibility of every faculty member "to fulfill the assigned time schedule of all classes, including quizzes, laboratories, tests, and other meetings unless absence is caused by an emergency or approved University business." TAs have the same responsibilities. The "assigned time schedule" for TAs includes assigned grading, proctoring, and tutoring duties as well as scheduled recitation and laboratory teaching.

All graduate students with TA assignments are required to attend TA Training held the week before the beginning of fall classes. All TAs are expected to be present in the department during General Registration, which occurs on the Thursday and Friday immediately before the first day of classes for both fall and spring semesters. TAs will be notified of their duties by email and/or through their departmental mailboxes. Email

and departmental mailboxes should be checked frequently, especially at the beginning of the semester.

If a student will be away on University business or unavoidably absent for other reasons, he/she has the responsibility to arrange for a replacement for his/her teaching responsibilities, as detailed in the Teaching Assistant Responsibilities Policy, which is appended to this handbook. These arrangements must be satisfactory to the lecturer for the course (in the case of recitation teaching and/or grading and proctoring assignments) and/or to the Laboratory Manager (in the case of laboratory teaching). In the case of an absence caused by an emergency, the teaching assistant should notify the course instructor and the Main Office (JH 208) as soon as possible. If a TA knows beforehand of an unavoidable absence, he/she is expected to proceed as described in the previous paragraph.

The duties of a TA are not complete until the grades for the course the TA has been teaching have been filed or posted. The Academic Senate has proclaimed that all grades must be completed and filed within five working days of the final examination. The TA is expected to have the grades ready at the time specified by the course lecturer and to be available for consultations with the lecturer until the course grades have been filed.

Yearly renewal of a teaching assistantship is based on:

- Satisfactorily meeting the obligations of a teaching assistant.
- Satisfactory progress toward a degree.
- Availability of funds.

Assessment of student performance and learning is largely the responsibility of the student's Supervisory Committee. Performance in courses and the comprehensive exam are used to assess student comprehension of advanced knowledge within the degree and field of specialization. The chair of the Supervisory Committee and chair of the Graduate Committee are informed by the Office of Graduate Studies if a student is not performing satisfactorily in coursework.

The ability to apply this knowledge and conduct original research is demonstrated in the development of the Ph.D. dissertation proposal, the completion of the dissertation research, and the development and submission of the results in the appropriate refereed journals. The comprehensive exam and development of the dissertation research proposal are usually complete by the end of the second year (four semesters) of the Ph.D. program. In general, students follow the "paper format" for their dissertation, i.e., the dissertation is presented as a series of papers that are appropriate for publication in refereed journals. It is expected that one or more journal articles pertaining to the dissertation research be submitted by the time that the dissertation is defended.

The student's readiness to perform teaching or extension functions is assessed by the sponsor(s) of the student's two teaching/extension experiences. The sponsor must determine if the student has successfully fulfilled this requirement in his or her program.

## Procedures

**Preparing for Class:** When preparing for a class, a TA should read and understand the assigned material, work the assigned problems, and be thoroughly prepared. Nevertheless, situations may arise in which the TA is unable to respond correctly to a reasonable question. In such situations it is usually best to admit one's difficulty and have the needed information available at the next class meeting.

**Holding Office Hours:** Each full-time teaching assistant is required to have three office hours per week. This is in addition to the tutoring hour previously mentioned.

**Proctoring Examinations:** You may be assigned to proctor exams for courses other than the ones for which you are teaching. Unless directed otherwise by the course instructor, the following procedures should be should be adhered to:

- Proctor schedules are emailed to students at the beginning of each semester by the TA Manager and/or Main Office Associate. It is your responsibility to read the schedule as soon as you receive it and report any conflicts to the TA Manager.
- You are responsible for contacting the Course Instructor at least one week in advance of a scheduled exam. They will instruct you on when and where to meet. You are expected to be available 10 to 20 minutes before the examination begins. The exam may not be in the same location as the class. Be sure you know the room, building, and time of the exam. Consult a campus map if the exam is held in a building unfamiliar to you.
- Proctors should see that students' seats are uncluttered and that all books, papers, and other material are deposited at the front of the room.
- Students' seating should be arranged so that communication between them is minimized.
- A count of the number of students taking the examination should be taken at least twice. Attendance should be taken when seats have been assigned.
- At the beginning of the examination, the number of problems and the number of pages on the exam should be announced so that each student can tell whether his or her exam is complete.
- Proctors should remain alert to what is happening in the examination room.
- Proctors should be ready to clarify questions the students may have about the examination without actually solving the problems.

- When the examination is over, but before leaving the room, the proctor should count the number of papers turned in. If it differs from the number of students, check the room for fallen or misplaced exams, compare the tests turned in with the attendance roster, etc.
- Any suspected cases of improper student conduct during an examination should be reported to the instructor in charge with all of the evidence collected. Do not make any accusations during the examination period.

## **TAs for International Students**

**Institute for International Teaching Assistants:** The Institute for International Teaching Assistants (ITA) has been created by UNL to prepare international graduate teaching assistants to teach American undergraduates. Participants attend a two-week intensive training program that focuses on instructional strategies, classroom management and active learning, English pronunciation and intonation, and cross-cultural communication.

The following policy is not designed to eliminate all speaking accents, but to ensure that all of our international teaching assistants possess effective verbal communication skills. Our policy is as follows:

An international student may be awarded a Teaching Assistantship (TA) involving classroom or laboratory contact with students only if the international student:

- has been admitted to a degree program in the Graduate College, and
- has successfully completed the ITA at UNL.

International students are expected to pass the ITA by the end of their first year at UNL so that they are eligible to be assigned contact TA duties starting their second year. This is done by taking the ITA before their first semester at UNL, during the summer after their first Fall and Spring semesters at UNL, or both.)

International students who do not attend and pass the ITA during the summer before their first semester at UNL will be assigned non-contact teaching duties.

**NOTE:** All international students, whether or not they wish to be TAs, must take the UNL English Placement Examination (EPE) on arrival to campus and must take any subsequently required English coursework. If a student is a native of a country in which English is the only national language and English is the student's original language, both the EPE and second requirement may be waived. Other criteria considered by the Department Vice Chair when appointing and reappointing Teaching Assistants include, of course, knowledge of the material, good teaching skills, etc.

## Department Information

### Communication

**Email and Computers:** Make sure that the Graduate Program Associate has your current @huskers.unl.edu email address, as this address will be our primary means of communication. Check your email at least once a day for important messages. If there is a change in your contact information while you are enrolled in our program, inform the Graduate Program Associate.

Students claim their @huskers.unl.edu email address at <http://huskers.unl.edu/liveedu/>. In addition to communication with us, this email address will be needed for travel on department business (i.e. attending conferences) and is useful for undergraduates needing to contact their TAs (you). Students are able to use their @huskers.unl.edu email address even after they complete their degree at UNL.

Be prudent when opening files and/or forwarding messages from unknown sources. Report suspicious email messages (i.e. phishing) to [securityopcenter@unl.edu](mailto:securityopcenter@unl.edu). Free anti-virus software is available from Information Services at: <http://antivirus.unl.edu/>.

Computers are available in some graduate student offices. The Association of Students of the University of Nebraska (ASUN) is also sometimes able to provide graduate students with a used computers for their offices. See the Graduate Program Associate for details on how to request one of these computers.

**Departmental Mailboxes:** Physics graduate students with RA or TA appointments have mailboxes located in JH 214. They are grouped alphabetically by last name on the west wall. Your mailbox location in JH 214 will likely shift when new students arrive. This will happen mainly in the fall semester, but can happen at any time when new graduate students join the department. Do not move the location of your mailbox.

**Regular Mail:** The office staff receives U.S. Postal Service (USPS) mail on even-numbered calendar days and distributes it to the mailboxes. Large packages that do not fit into mailboxes will be taken to the Receiving Room, located in the Business Office (JH 208.2). Check your mailbox at least once per day for interdepartmental mail.

Packages delivered to the department via UPS or FedEx may arrive at any time during regular business hours (M-F, 8:00am – 5:00pm). Those packages are to be picked up in the Business Office, JH 208.2.

No personal mail should be sent from or delivered to the departmental office. Outgoing mail for both on-campus and USPS should be placed in the tray in JH 214. Mail for off-campus delivery must have the department's address and the sender's name listed as the return address.

On-campus mail addresses must include the recipient's name, the building, the room number, and the on campus zip code. Departments on City Campus (like us) are denoted by CC (xxxx), where the xxxx is the last four digits of the extended zip code. The Department of Physics and Astronomy's extended zip code is 0299. Departments on East Campus are denoted by EC (xxxx).

**Shipping via UPS and/or FedEx:** Occasionally students may be required to ship items via UPS and/or FedEx. To do this, download the *Shipping Form for Main Office* found here: <http://www.unl.edu/physics/forms>. Once you have downloaded the form, fill it out, save it to your computer, and email it to [paoffice@unl.edu](mailto:paoffice@unl.edu) as an attachment. You may also print it out and take it to the Main Office.

After you have finished doing this, take your items to the Main Office to ship. If you are shipping samples, your items must be in a box large enough to fit a shipping label on the outside. Anything shipped outside of the United States must be in a box large enough to easily fit customs papers on it. Samples will not be shipped in envelopes.

Please note: Any items taken to the Main Office after 1:00 p.m. for shipment cannot be guaranteed to ship out the same day.

**Telephones:** All campus office phone numbers start with the 472- prefix. To phone a campus office from campus, dial 2-xxxx where the xxxx is the last four digits of the telephone number. To call an off-campus number from a campus phone, you must dial 9 first. The departmental phone directory is emailed to department members regularly.

**Fax Machine:** The Business Office (JH 208.2) has the only fax machine in the department. See them if you need to fax a document. The department copier is not a fax machine.

## Copying

Occasionally, students are required to copy documents for teaching or research purposes during their time in our department. The department copy machine is found in the Mail Room, JH 214, and it can send scanned documents to an email address as well as make copies. Those wishing to scan or copy using this machine must input a code for it to work. Codes can be obtained from the Main Office staff.

During regular business hours, TAs may also use the TA computer found in the Main Office (JH 208) to send copy requests directly from the computer to the copy machine. Instructions on how to do this are found on the computer monitor. Main Office staff can also assist if necessary.



### **Other Copying Instructions:**

- If you aren't sure how to use the machine, ask the Main Office (JH 208) staff for assistance.
- Do not try to fix the copier if it breaks/jams. Report all problems to the Main Office.
- If the copier needs toner, paper, staples, etc., notify the Main Office, and they will handle the maintenance.
- Close the lid completely before you copy.
- Do not copy papers that may leave marks on the glass (i.e. paper with white-out or ink that is still wet).
- Do not place anything on the photocopy surface that could scratch the glass. The scratch will be reproduced on everything copied on the machine.
- Do not use transparencies in the copier. The copier uses a great deal of heat, and thin transparencies will melt in the copier.

**Personal Copying:** A Print IT kiosk is available for personal copying on the first floor of Jorgensen Hall near the vending machines. This kiosk is a pay-per-print kiosk and has no affiliation with the department.

Alternatively, a clipboard with "Personal Xeroxing" across the top is located on the file cabinet near the copy machine in JH 214. Record your personal copies there. If you do not find your name on the list, write your name and the number of copies you made at the bottom of the last page on the clipboard. Please write legibly. These copies are tallied periodically and the Business Office will place a bill in your departmental mailbox. The current price for using the department's copier for personal copies is 4 cents per copy.

### **Business Office**

The Physics and Astronomy Business Office is located in JH 208.2. Among other things, they provide:

- **Supplies (paper, pens, chalk, etc.):** for research and teaching related uses are located in the Business Office. Some materials are in an open cabinet; others must be requested from the Business Office staff. If you need something that is

not stocked, it can be ordered through the Office Depot catalog (which is also available in the Business Office). The supplies in JH 208.2 are for research and teaching related needs only.

Equipment or supplies not in stock must be requisitioned through the web forms available on the departmental website (<http://www.unl.edu/physics/forms>). Click on the Requisitions tab, download either the Excel or PDF file of the requisition form, and fill it out. Once completed, the requisition must be emailed to [papurchasing@unl.edu](mailto:papurchasing@unl.edu).

When you receive your order, verify that the shipment is correct then sign the invoice and the packing slip. Return both to the Business Office.

- **Travel Reimbursement:** Fill out a Travel Authorization Form prior to leaving for work-related trips that provide reimbursement. This form is found at <http://www.unl.edu/physics/forms>. During travel, be sure to get itemized receipts for all expenditures. Submit this form by email to [papurchasing@unl.edu](mailto:papurchasing@unl.edu).

Upon return, fill out a Travel Reimbursement Form. This form is found at <http://www.unl.edu/physics/forms>. Submit this form by email to [papurchasing@unl.edu](mailto:papurchasing@unl.edu).

Reimbursement must be requested within 60 calendar days of the last day of travel.

## Facilities

### Access

**NCard Access:** All students must get an NCard available at the ID office in the City Campus Union. Students must be registered for classes and bring a photo ID with them to the ID office when obtaining an NCard. The NCard costs \$20. This student ID also serves as a library card and can give access to Jorgensen Hall before or after building hours (6:00 a.m. to 10:00 p.m.) on weekdays. An active NCard is also needed to access the building on weekends.

An active NCard is needed to enter various rooms inside Jorgensen Hall, as well. Some of those rooms include the Mail Room (JH 214) and various labs. NCard access to these rooms as well as the Jorgensen Hall exterior doors is obtained by sending the Graduate Program Associate an email request. Include your name, NUID, and the rooms/doors of which you wish to have access in the request.

**Key Access:** Keys for assigned offices are obtained from the Graduate Program Associate in JH 208. Keys are the property of the University. Security concerns dictate that keys may not be duplicated, lent, or given to anyone else. DO NOT switch your keys with anyone other than the Main Office. Return door keys and NCard to the Graduate Program Associate in JH 208 upon graduation or separation from the University. Desk and cabinet keys should remain with the desk/cabinet.

### Buildings, Offices, and Rooms

**Department Buildings:** The Department of Physics and Astronomy occupies Jorgensen Hall (JH), Behlen Laboratory [Extreme Light Laboratory (ELL) which includes the Diocles Laser] (BEL), and Behlen Observatory near Mead, Nebraska.

**Office Space/Desks:** The department endeavors to provide office space to all graduate students in the department who hold an RA or TA appointment. Office space assigned by the department is considered to be temporary and will expand or contract depending on current departmental teaching and research requirements. New graduate students will receive office assignments from the Main Office (JH 208). **Do not move to another desk or office without first contacting the Main Office.**

**Department Offices:** The Main Office is located in JH 208, and adjoining this are the Department Chair and his/her administrative assistant offices in JH 208A and 208B, respectively. The Business Office is in JH 208\_2. The copy machine and mailboxes are in the Mailroom in JH 214 and is located between the Main and Business Offices.

**Conference, Seminar, and Meeting Rooms:** Seminars, conferences, and informal meetings may be held in JH rooms 071, 207, 309, and 338. Reservation requests for their use should be emailed to [paoffice@unl.edu](mailto:paoffice@unl.edu).

### Teaching Rooms:

- **Physics Resource Room:** Also known as the Tutoring Room, graduate students are assigned to serve as tutors during various hours of the week in the Physics Resource Room (JH 253).
- **Lecture Halls:** The two lecture halls used for large-enrollment introductory physics courses are JH 110 (reserved through the University Registrar) and JH 136 (reserved in the Main Office, paoffice@unl.edu).
- **Introductory Laboratories:** Laboratories for all of the lower-level physics courses are held in the various rooms on the north half of the first floor of Jorgensen Hall. The office of the Laboratory Manager is JH 139.
- **Advanced Undergraduate Laboratories:** JH 241 and JH 233 house the advanced undergraduate laboratories.

### Department Shops:

- **Electronics Shop:** The Electronics Shop is located in JH 356.
- **Instrument and Student Shops:** The department maintains a fully-equipped instrument shop in JH 177 as well as a student shop in JH 175. The machines in the instrument shop are to be operated only by the shop staff. Machines in the student shop may be used for departmental student work authorized by a member of the faculty.

For safety reasons, students may use the machines only after being trained by the student shop machinist and passing a safety test. Students must always have a second person in the shop at all times (“buddy” system) when they are working.

**Student Observatory:** In addition to the Behlen Observatory near Mead, Nebraska, our department operates a Student Observatory located on the UNL campus. Located on top of the parking garage at the intersection of Stadium Drive and 10<sup>th</sup> Street (west of Memorial Stadium), the observatory is open on clear nights during the academic year.

**Lecture Demonstration Apparatus:** Demonstration apparatus for teaching purposes is stored and assembled in JH 134. The office of the Lecture Demonstrations Manager is JH 134A

**External Research Laboratories:** Professors doing experimental research maintain laboratories in Jorgensen Hall and Behlen Laboratory. Off-campus research is carried out at:

- Fermi National Accelerator Laboratory (near Chicago, IL)
- The Large Hadron Collider at CERN (in Switzerland)
- The Advanced Light Source at Lawrence Berkeley Laboratory (Berkeley, CA)
- The Center for Advanced Microstructures (in Louisiana)
- The Behlen Observatory (near Mead, NE)
- Thomas Jefferson National Laboratory (Newport News, VA)

**UNL Libraries:** There are several different libraries at UNL. A listing of them can be found at <https://libraries.unl.edu/library-branches>. The main library for UNL's city campus is Love Library, and it is a good resource for a variety of things.

In addition, many research journals and databases for searching scientific literature are available online through UNL's libraries. Go to the UNL library website (<http://libraries.unl.edu/>) to access them.

- **Books:** Most books can be checked out of the library using your NCard. Some books are on reserve for courses or are designated reference materials that can only be used in the library. Please be aware of fair use copyright laws and limit your copying to materials that fall within these guidelines. Do not remove any material from the library without checking it out.
- **Ordering Articles:** The delivery of any requested books will be made to the Engineering library. These are picked up at the Circulation Desk, Nebraska Hall (NH) W204. Any journal articles requested will be delivered directly to the email address provided.
- Books or Article not located in UNL's library system can be requested through Interlibrary Loan (ILL) via the University library's website. To access Interlibrary Loan, go to <https://unl.illiad.oclc.org/illiad/logon.html>.

**Parking & Transit Services:** UNL Parking & Transit Services develops and manages all forms of campus parking and bus transit services in a safe and reliable manner. More information on how to obtain a parking permit and/or bus pass can be found at <https://parking.unl.edu>.

## **Appendix A. Academic Dishonesty**

The academic and disciplinary sanctions imposed on an individual who has engaged in academic dishonesty vary with the kind and extent of the dishonesty. In what follows, some possible sanctions are presented in specific instances. It should be noted that the Bylaws of the Department of Physics and Astronomy require a discussion and vote by the faculty of the department if a student is to be expelled from the graduate program.

An individual who engages in academic dishonesty in a particular course will face penalties at the discretion of the faculty member teaching the course. These penalties may range from failing the assignment or examination to failing the course. Regardless of the degree of the penalties he/she has assessed, the faculty member will report the nature of the infraction to the Graduate Committee of the Department of Physics and Astronomy. After investigation, the Graduate Committee may impose further penalties or sanctions up to, and including, expulsion from the graduate program (with faculty consent and approval).

An individual who engages in academic dishonesty during the Preliminary Exam will normally be expelled from the graduate program. The extent and degree of academic dishonesty will be investigated as fully as possible, and the Graduate Committee will recommend penalties to the faculty of the department for their discussion and decision. An individual who engages in academic dishonesty while carrying out the research for a Master's thesis, or in presenting the results of such research, will normally be expelled from the graduate program. The student's advisor will report the nature of the academic dishonesty to the Graduate Committee. The Graduate Committee will then investigate the extent and degree of academic dishonesty as fully as possible and make a recommendation regarding expulsion from the graduate program to the faculty of the department.

An individual who engages in academic dishonesty while carrying out research for a doctoral dissertation, or in presenting the results of such research, or when taking the Comprehensive Examination will normally be expelled from the graduate program. The student's supervisory committee will investigate, as fully as possible, the extent and degree of the academic dishonesty and report its findings to the Graduate Committee. After completing its own investigation and deliberations, the Graduate Committee will make a recommendation regarding expulsion from the graduate program to the faculty of the department.

## Appendix B. TA Responsibilities

A Teaching Assistantship (TA) contributes to the department's teaching mission and to your professional development. Your compensation and your continuation in the program depend in part upon your performance as a TA. As a University employee, you must adhere to all applicable policies and procedures, including those described in this document and at <http://www.unl.edu/gradstudies/current/funding>.

**Teaching Assignments:** You will be assigned to teach laboratories, teach recitations, set up labs, grade coursework, proctor exams, or some combination of these. A full-time TA (6 units) is expected to work 19.6 hours per week on average. If you find that you are spending more time than this, discuss it with your supervisor or the Vice Chair. Your work assignment begins the week before classes and ends only after you have completed all of your assignments, usually by the end of finals. **You may not leave for break or vacation until after finals are over.** Due to likelihood of visa problems, we strongly recommend that international students not travel abroad during the winter break.

Typical Assignments:

- One laboratory section = 2 units (The Laboratory Manager is your supervisor)
- One recitation section = 1+ units (The course instructor is your supervisor)
- One laboratory setup = 1 unit (The Laboratory Manager is your supervisor)
- Course grading = varies as assigned (The course instructor is your supervisor)

Other Duties:

- **Tutoring Hours:** Most TAs are required to hold tutoring hours each week in the Physics Resource Room (JH 253). The number of hours depends on your specific assignment but will be between 1 and 2 hours per week. You must attend all tutoring hours or arrange a substitute. The purpose of tutoring hours is to provide help to any student who comes in. The tutoring hour schedule will be distributed during the first week of classes. You must sign in at the Main Office (JH 208) at the beginning of each assigned tutoring hour. The supervisor for tutoring hours is the Vice Chair.
- **Exam Proctoring:** You may be scheduled to assist with administering exams several times per semester. This will not necessarily be for the same course as your teaching assignment. The supervisor for exam proctoring is the TA Manager.
- **Grading:** You will be given papers to grade and corresponding completion dates by the course instructor. The frequency of assignments depends on the course. The supervisor for grading is the course instructor.
- **Lab Training:** You are expected to participate in weekly lab-training meetings for your course (PHYS 141, 142, 221, 222, 223). The supervisor for lab training is the Laboratory Manager.

## Guidelines and Procedures:

- **General:** Find out what your duties are. Check in with your supervisor(s) frequently. Be prepared, be on time, be engaged in class, office hours, etc. Complete out-of-class duties (e.g., grading) promptly and thoroughly.
- **Physics Resource Room (JH 253):** Sign in for each session in the Main Office (JH 208). Help students; do not work problems for them. Students are responsible for bringing a copy of the assignment and the text, not you.
- **Proctoring:** You are responsible for contacting the Course Instructor at least one week in advance of a scheduled exam. They will instruct you when and where to meet. You are expected to be available 10 to 20 minutes before the examination begins. The exam may not be in the same location as the class, so be sure you know the room, building, and time. Consult a campus map if the exam is held in a building unfamiliar to you.
- **Paid Tutoring:** The department does not arrange or coordinate paid tutoring. Graduate students may engage in tutoring for pay, subject to the following conditions:
  - Graduate students may not accept payment for tutoring from students in classes they are assigned to teach or for which they are assigned grading.
  - Due to immigration regulations, international students may not be employed by non-UNL entities (including private tutoring).
  - Graduate students may not tutor for pay in the Physics Resource Room (JH 253) or in their offices.
  - Graduate students may request to have your name included on the departmental list of qualified tutors.
  - Written permission must be obtained from the graduate student's research supervisor before they may begin paid tutoring.
  - Graduate students must inform the Vice Chair before they begin paid tutoring.

**Attendance Policy:** You are required to complete all of your assigned teaching duties as scheduled. You are expected to be available and ready for work any and all weekdays except for specified University Holidays (<http://hr.unl.edu/general/holidayschedule.shtml>) and other university closings.



If you are not a U.S. citizen or permanent resident, we do not recommend travel outside the country between fall and spring semesters. Delays in returning are likely, which may cause you to return after the semester has begun. If your return is delayed (for example due to visa processing delays) beyond the start of the semester, causing you to be unable to fulfill your assigned duties, your pay may be reduced for the days you are absent.

Under very limited circumstances, you may request to be excused from teaching to fulfill a professional obligation (i.e. attending a research conference). There are very important limitations to these excused absences and are as follows:

- You must arrange for a suitable substitute for your duties while you are gone.
- You may not be excused during the first or last week of classes.
- You must inform your supervisor(s) (lab, recitation, tutoring, and/or grading) of the activities that will be affected by your planned absence. You must obtain their approval at least two weeks in advance. Your teaching responsibilities take precedence over other activities; do not assume that an absence will be approved.

If some unforeseen and unavoidable circumstance (i.e. illness or accident) prevents you from performing your TA duties, you must inform the Lab Manager as soon as possible. If you are unable to reach the Lab Manager, contact the Main Office.

**UNDER NO CIRCUMSTANCES ARE YOU TO  
CANCEL, DISMISS, OR RESCHEDULE CLASS.**

## Appendix C. Personal Safety & Health

The University of Nebraska and City of Lincoln strive to be safe environments for individuals to grow and thrive. Unfortunately, adverse situations do sometimes occur. Please keep the following information in mind to help ensure your safety and health:

### Jorgensen Hall Safety:

- Keep offices and labs locked when they are empty. Make sure that all locked doors shut and latch when leaving.
- Do not prop open doors.
- Keep purses and valuables (i.e. laptop computers) out of view and locked up when you are not with them. Items have been stolen from offices and labs in the past. The problem is usually at its worst during the last few weeks of classes each semester.
- Report any suspicious individuals and/or activities to the University Police Department at 402-472-2222 and the Physics & Astronomy Main Office.

**Husker Safe Walk:** The University Police Department will provide a walking escort to all members of the University Community upon request. A Husker Safe Walk may be requested at any time while on campus by calling the UNL Communications Center at [\(402\)-472-2222](tel:402-472-2222).

This service is prioritized amongst other calls for service at any given time. These walks may be conducted by a Campus Security Officer, or a Police Officer, depending upon availability and staffing levels.

The response time for this request may be up to fifteen (15) minutes, or longer if officers are dealing with an emergency situation. If you are requesting a Safe Walk at night, it is best to wait for an Officer in a public, well lit area. Please plan your request for this service accordingly. Advanced notification for utilizing this service is preferred. A University Police Officer will make every effort to accommodate your request; however, there may be times when this service may be delayed because of other duties. During these instances we ask for your patience and understanding.

Note: This service is meant to be used as a courtesy and should not be used for ongoing occurrences. If students know ahead that they will have to stay late on-campus, please arrange to have someone who can come pick them up or walk them to their vehicle.

**On-call Van Service:** University students can take advantage of an on-call van transportation service at no cost. The service provides rides between designated campus bus stops after the end of daily bus route schedules.

The service is available weekdays in perimeter permit areas beginning at 6 p.m. and from 9 p.m. to 11:30 p.m. at designated campus bus stops.

The on-call van service is simple to use:

- Arrive at a designated StarTran bus stop.
- Call **402-326-8807**.
  - Provide current location and destination request.
  - Response time is about 15 minutes.
- Enter the van upon arrival and repeat your destination request.

The van then delivers riders to requested campus bus stop locations.

On-call van service is available weekdays during fall and spring semesters.

**Saturday Intercampus Bus Service:** StarTran offers two bus routes on Saturday that provide reduced intercampus that operate between 7:00 a.m. and 6:00 pm.

- **Routes 42/43** - Intercampus bus service uses the following stops:
  - the 12th & Q Streets bus stop (City Campus)
  - bus stops along Holdrege streets between 33rd and 40th (East Campus)
- **Routes 49** - Intercampus bus service using the following stops:
  - R Street bus stops (City Campus) between 12th and 17th streets
  - Vine Street bus stops (City Campus) between 16th and 23rd streets
  - 33rd and Holdrege bus stops (East Campus)

For more information and map about these routes, visit the StarTran website:

<https://www.lincoln.ne.gov/city/ltu/startran/routemap/index.htm>.

**Annual Campus Security and Fire Safety Report:** The University Police Department releases an Annual Campus Security and Fire Safety Report. This report, available at <https://police.unl.edu/safety-reports-and-statistics>, contains the university's crime and fire statistics for the last three years. The report also includes a list of resources available to victims of crimes; various campus policy statements; links to sex offender registries; tips on how to avoid being a victim of a crime; information on how to report crimes; and details about campus programs on safety, security, drugs/alcohol, disciplinary procedures, fire safety, and evacuations. In addition, it contains all of the information required by the Drug-Free Schools and Communities Act of 1989.

Free paper copies of this report can be requested from University Police during normal business hours, 8 a.m. to 5 p.m. weekdays, at 300 N. 17<sup>th</sup> St., or by sending a request by email to [unl.police.@unl.edu](mailto:unl.police.@unl.edu).

**Other Useful Resources:**

- **The Women's Center** - <https://womens-center.unl.edu/welcome>
- **LGBTQA+ Resource Center** - <https://lgbtqa.unl.edu/welcome>
- **University Health Center** - <https://health.unl.edu/>
- **Wellness Services (Campus Rec)** - <https://wellness.unl.edu/>
- **UNL Student Affairs** - <https://studentaffairs.unl.edu/>
- **Student Legal Services** - <https://asun.unl.edu/student-legal-services/welcome>
- **Victim Advocacy** - <https://victimadvocacy.unl.edu/welcome>
- **Services for Students with Disabilities** - <https://www.unl.edu/ssd/home>
- **Huskers Helping Huskers Pantry+** - <https://pantry.unl.edu/welcome>
- **Students with Children** - <https://womens-center.unl.edu/student-parents>

## Appendix D. Firefly



Firefly is the University of Nebraska online business portal which gives all employees access to view their pay advice, manage their bank accounts, and view position & personal information that the University of Nebraska has on file for them.

To access Firefly, go to: <https://firefly.nebraska.edu>

You will log in using your **TrueYou** credentials. TrueYou is the identity management system used by all of the University of Nebraska campuses as well as the Nebraska State College system. To claim your identity and acquire/manage your TrueYou credentials, go to: <https://trueyou.nebraska.edu>.

To access many online University services, TrueYou's Duo 2-Factor authentication is required. This authentication is done for added online security of your information and is set up after you claim your TrueYou credentials.

## Appendix E. Academic Leave of Absence

Found on the Graduate Studies website at:

<https://catalog.unl.edu/graduate-professional/graduate/registration/leave/>

**PURPOSE:** Graduate students are expected to maintain active status through continuous registration from the time they matriculate until they graduate. In the event that a student is unable to continue active participation, the student must complete an Academic Leave of Absence to temporarily suspend his or her graduate studies and the pursuit of a degree.

**POLICY:** An Academic Leave of Absence may be granted to students for illness or injury, to provide care or assistance for family and dependents, to meet military service obligations, or for other personal reasons.

A leave can be used to suspend study for **one semester or more (up to a full academic year)** during which time the student is not expected to make progress toward their degree.

- The one-year time limit can be **extended** for military service or in other cases subject to approval by Graduate Studies.
- A leave can be granted for **current and/or future** semesters only, not for prior semesters. Students granted a leave are **not required to register for any credit hours** for the period covered by the leave.
- With no enrollment, no tuition and fee costs are accrued during the leave.
- The time limit for reaching candidacy or for completing the Ph.D. is extended only by the number of semesters the student is on leave.
- For Ph.D. students in candidacy, an approved leave satisfies the **continuous enrollment requirement**.

Students **returning** from an approved leave do not need to be readmitted.

**ELIGIBILITY:** Be a graduate student in good standing (3.0 or above), with at least one semester of prior graduate enrollment at UNL.

- Get approval from their graduate program.
- Have no course enrollments for the duration of the leave. If already enrolled during the leave, students must officially withdraw from those courses.
- If international, get approval from the International Student and Scholars Office (ISSO). SEVIS updates may be needed and immigration regulations may restrict eligibility; ISSO can help to identify other possible courses of action.

**IMPLICATIONS:** Students should expect to make **no academic progress** during a leave. A student on leave cannot:

- Take qualifying examinations for advancement to candidacy or final examinations for the degree (although language competency examinations are allowed).
- File a thesis or dissertation.
- Make extensive use of faculty/staff time or resources (except for planning a return from leave).
- Receive academic credit for work done during the leave at another institution (unless approved in advance by the faculty advisor and Graduate Studies).

It is the responsibility of any student with **federal financial aid or loans** to consult the Office of Scholarships and Financial Aid and/or their loan agency before applying for a leave, to determine how a leave could affect aid, eligibility to defer loan repayment, and loan status.

A student on leave is not registered for classes and **does not receive the benefits, services, and eligibility** associated with registered-student status, including:

- Graduate assistantships or other student work titles and their benefits (e.g., tuition remission, student insurance, @unl.edu email address).
- UNL Libraries (unless applying for a “community member” library card).
- University Health Center and student health insurance.
- UNL Campus Recreation Centers.
- UNL fellowship support and research grants.
- UNL graduate awards.
- Most forms of University financial support.
- Access to laboratories, equipment, and other controlled-access campus facilities.

Students considering a leave are strongly encouraged to explore alternatives, discuss the impact on their plan of study with the graduate chair and their faculty advisor, and develop a strategy for completing the degree program.

In many cases students are better served by **alternatives that maintain enrollment and eligibility for student services**, for example:

- Modify program expectations.
- Reduce coursework, research, teaching, or other educational responsibilities.
- Working at a slower pace.

- Delaying milestone deadlines.
- Taking incompletes in the current semester with a plan to address them at a later time.

## **PROCEDURES:**

### Requesting a Leave

- Students consult their faculty advisor and their department's graduate chair to determine whether a leave is the most appropriate course of action.
- The student submits a completed Academic Leave of Absence Form to Graduate Studies with the required signatures. This form can be found at: [https://www.unl.edu/gradstudies/current/Academic\\_Leave\\_Request\\_Form.pdf](https://www.unl.edu/gradstudies/current/Academic_Leave_Request_Form.pdf)
- Upon approval by Graduate Studies, an email notification with a copy of the signed form is sent to the student, graduate chair, and faculty advisor.

### Extending a Leave

To extend an approved leave, students must notify the graduate program chair and their advisor at least four weeks prior to the end of the semester in which the leave terminates. An extension requires approval of the department and (if international) ISSO.

### Returning from Leave

Students on academic leave must notify Graduate Studies of their intent to return, in writing, to [graduate@unl.edu](mailto:graduate@unl.edu), at least four weeks prior to the end of the leave. The Master's or Doctoral Specialist will notify the graduate chair and the faculty advisor of the student's intent to return.



## Appendix F. Useful Departmental Contact Information

| Title                                     | Responsible for   | Faculty/Staff Member   |
|---|---|--|
| Main Office<br>(JH 208)                   | Course permission codes & overrides,<br>room reservations, shipping<br>(UPS/FedEx), general queries           | <a href="mailto:paoffice@unl.edu">paoffice@unl.edu</a>   |
| Graduate Chair                            | General advising, course advice,<br>student progress, etc.  | Kees Uiterwaal<br>JH 077; <a href="mailto:cuiterwaal2@unl.edu">cuiterwaal2@unl.edu</a> ;<br>472-9010 |
| Graduate Program<br>Associate             | Grad admissions & recruiting,<br>appointment paperwork, room access,<br>office assignments, grad events, etc. | TBD<br>JH 208; <a href="mailto:paoffice@unl.edu">paoffice@unl.edu</a> ;<br>472-9221                  |
| Vice Chair                                | Oversees TA assignments   | Bradley Shadwick<br>JH 310N; <a href="mailto:shadwick@unl.edu">shadwick@unl.edu</a> ;<br>472-3578    |
| Department Chair                          | Our Supreme Leader  | Daniel Claes<br>JH 258G; <a href="mailto:dclaes@unl.edu">dclaes@unl.edu</a> ;<br>472-2783            |
| Main Office<br>Associate                  | Website updates & social media, event<br>planning, textbook ordering, etc.                                    | Kelcey Gabriel<br>JH 208; <a href="mailto:kgabriel2@unl.edu">kgabriel2@unl.edu</a> ;<br>472-2770     |
| Laboratory<br>Manager                     | Introductory lab management,<br>TA assignments, tutoring assignments  | Josh Beck<br>JH 139; <a href="mailto:palab@unl.edu">palab@unl.edu</a> ;<br>472-2199                  |
| Lecture/Demos<br>Manager                  | Lecture demonstrations, summer<br>course assignments  | Cliff Bettis<br>JH 134A; <a href="mailto:cbettis@unl.edu">cbettis@unl.edu</a> ;<br>472-2789          |
| Business Manager                          | Grant management, building<br>maintenance issues, supplies,<br>equipment orders, travel<br>reimbursements     | Patricia Fleek<br>JH 208D; <a href="mailto:pfleek@unl.edu">pfleek@unl.edu</a> ;<br>472-6072          |
| Purchase<br>Assistance                    | Lab and teaching equipment orders,<br>travel reimbursements, supplies   | TBD<br>JH 208.2;<br><a href="mailto:papurchasing@unl.edu">papurchasing@unl.edu</a> ;<br>472-0326     |
| Electronics Shop<br>Manager               | Computer issues, electronics  | Anatoly Mironov<br>JH 356; <a href="mailto:amironov2@unl.edu">amironov2@unl.edu</a> ;<br>472-2793    |
| Student and<br>Instrument Shop<br>Manager | Machine shop student training   | Bob Rhynalds<br>JH 177C; <a href="mailto:rrhynalds@unl.edu">rrhynalds@unl.edu</a> ;<br>472-2780      |

## Appendix G. Course Availability & Planning Checklist

### COURSE AVAILABILITY

|   |     | 2019<br>Fall | 2020<br>Spring | 2020<br>Fall | 2021<br>Spring | 2021<br>Fall | 2022<br>Spring | 2022<br>Fall | 2023<br>Spring |
|---|-----|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|
| <b>The "91X" Courses</b>                          |     |              |                |              |                |              |                |              |                |
| Classical Mechanics                               | 911 | ✓            |                | ✓            |                | ✓            |                | ✓            |                |
| Statistical Mechanics                             | 912 | ✓            |                | ✓            |                | ✓            |                | ✓            |                |
| Electromagnetic Theory (E&M) I                    | 913 | ✓            |                | ✓            |                | ✓            |                | ✓            |                |
| Electromagnetic Theory (E&M) II                   | 914 |              | ✓              |              | ✓              |              | ✓              |              | ✓              |
| Quantum Mechanics I                               | 916 |              | ✓              |              | ✓              |              | ✓              |              | ✓              |
| Quantum Mechanics II                              | 917 | ✓            |                | ✓            |                | ✓            |                | ✓            |                |
| *Quantum Mechanics III                            | 918 |              | ✓              |              | ✓              |              | ✓              |              | ✓              |
| <b>The "81X" Courses</b>                          |     |              |                |              |                |              |                |              |                |
| **Methods in Theoretical Physics I                | 811 | ✓            |                | ✓            |                | ✓            |                | ✓            |                |
| Methods in Theoretical Physics II                 | 812 |              | ✓              |              |                |              | ✓              |              |                |
| Meth. Theor. Phys III (Group Theory)              | 813 |              |                |              | ✓              |              |                |              | ✓              |
| <b>Select Three of the Following</b>              |     |              |                |              |                |              |                |              |                |
| Atomic & Molecular                                | 925 | ✓            |                |              |                | ✓            |                |              |                |
| Nuclear & Elementary Particles                    | 926 |              | ✓              |              |                |              | ✓              |              |                |
| Solid State                                       | 927 |              |                | ✓            |                |              |                | ✓            |                |
| Plasma  | 928 |              |                |              | ✓              |              |                |              | ✓              |
| <b>Take During Any Fall &amp; Spring Semester</b> |     |              |                |              |                |              |                |              |                |
| Special Topics in Physics                         | 998 | ✓            | ✓              | ✓            | ✓              | ✓            | ✓              | ✓            | ✓              |

### MY PLANNER/CHECKLIST

|   |     | First Year |        | Second Year |        | Third Year |        | Fourth Year |        |
|---|-----|------------|--------|-------------|--------|------------|--------|-------------|--------|
|   |     | Fall       | Spring | Fall        | Spring | Fall       | Spring | Fall        | Spring |
| <b>The "91X" Courses</b>                          |     |            |        |             |        |            |        |             |        |
| Classical Mechanics                               | 911 |            |        |             |        |            |        |             |        |
| Statistical Mechanics                             | 912 |            |        |             |        |            |        |             |        |
| Electromagnetic Theory (E&M) I                    | 913 |            |        |             |        |            |        |             |        |
| Electromagnetic Theory (E&M) II                   | 914 |            |        |             |        |            |        |             |        |
| Quantum Mechanics I                               | 916 |            |        |             |        |            |        |             |        |
| Quantum Mechanics II                              | 917 |            |        |             |        |            |        |             |        |
| *Quantum Mechanics III                            | 918 |            |        |             |        |            |        |             |        |
| <b>The "81X" Courses</b>                          |     |            |        |             |        |            |        |             |        |
| **Methods in Theoretical Physics I                | 811 |            |        |             |        |            |        |             |        |
| Methods in Theoretical Physics II                 | 812 |            |        |             |        |            |        |             |        |
| Meth. Theor. Phys III (Group Theory)              | 813 |            |        |             |        |            |        |             |        |
| <b>Select Three of the Following</b>              |     |            |        |             |        |            |        |             |        |
| Atomic & Molecular                                | 925 |            |        |             |        |            |        |             |        |
| Nuclear & Elementary Particles                    | 926 |            |        |             |        |            |        |             |        |
| Solid State                                       | 927 |            |        |             |        |            |        |             |        |
| Plasma  | 928 |            |        |             |        |            |        |             |        |
| <b>Take During Any Fall &amp; Spring Semester</b> |     |            |        |             |        |            |        |             |        |
| Special Topics in Physics                         | 998 |            |        |             |        |            |        |             |        |
| <b>Math Elective</b>                              |     |            |        |             |        |            |        |             |        |

\* Quantum Mechanics III (918) is not required for the degree

\*\* Methods in Theoretical Physics I (811) is the only **required** "81X" course.