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# Physics Graduate (Ph.D.) Handbook

**BIGGER QUESTIONS  
BETTER ANSWERS  
BEAR DOWN**



THE UNIVERSITY  
OF ARIZONA  
[ARIZONA.EDU/BEARDOWN](http://ARIZONA.EDU/BEARDOWN)

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This handbook covers requirements specific for the UA Physics Department. For any UA Graduate College rules and regulations you should consult: [grad.arizona.edu](http://grad.arizona.edu) and/or [grad.arizona.edu/current-students](http://grad.arizona.edu/current-students) and links therein.

## Ph.D. Degree Requirements

### 1. COURSE WORK

#### **What are the minimum credit hour requirements?**

36 credits in the Physics major (or cross-listed) graduate-level courses

9 credits is the minimum for a Physics minor, but some other minors require more – please check with the minor department.

18 Dissertation credits (PHYS 920)

At least 50% of the course work in major and minor need to be regularly (A, B...) graded.

**What is GradPath?** [GradPath](#) is the online record of your degree progress. You should access it in the first semester of the program, and sign the Responsible Conduct of Research Statement. As you progress in the Ph.D. program, you'll need to fill out and submit additional forms. The Graduate College requires completion of all the GradPath forms for graduation.

**Are there any required courses?** Yes, the six core courses listed below are required for all students regardless of research direction.

PHYS 511 Analytical Mechanics

PHYS 515A/B Electromagnetic Theory

PHYS 570A/B Quantum Mechanics

PHYS 528 Statistical Mechanics

These core courses must be completed by the end of the third semester in the program with a cumulative core-class GPA of at least 3.1. These courses may not be repeated. The material studied in the above courses represents what we expect every student to master in order to continue on to a Ph.D. degree.

#### **What is the recommended curriculum?**

Year 1, Fall semester: PHYS 511 (CM), PHYS 570A (QM I), PHYS 599

Year 1, Spring semester: PHYS 515A (EM I), PHYS 570B (QM II), PHYS 599

Year 2, Fall semester: PHYS 515B (EM II), PHYS 528 (SM), PHYS 599

**What is PHYS 599?** PHYS 599 is Independent Study, giving you the opportunity to engage in research with a group or individual faculty immediately after you have entered the

program. The Independent Studies are meant for you to explore research areas or groups that you may be considering for your Ph.D. thesis.

Note that no more than half of the 36 required credit hours of graduate-level Physics courses may be taken as PHYS 599. Remaining courses consist of the core courses listed above as well as more advanced specialty courses.

**What if I do not meet the 3.1 core course GPA requirement?** At the end of the third semester, if a student's core course GPA is below 3.1, they can petition for an oral exam to test whether they can continue to the Ph.D. written comprehensive exam. This petition must be submitted in writing to the Director of Graduate Studies (DGS) before the start of the 4<sup>th</sup> semester. If approved by the DGS, the graduate curriculum committee will give an oral exam in the first month of the 4<sup>th</sup> semester to test the students' mastery of core course knowledge. The oral exam must be a minimum of one hour and a maximum of three hours in duration. The graduate curriculum committee will present the results of the oral exam to the entire faculty. The faculty will determine by anonymous vote if the student can continue in the Ph.D. program based on the student's performance in the oral exam, taking into consideration the student's overall academic and research performance.

**For how many credit hours do I need to register each semester?**

Generally, physics students and Graduate Assistants (GAs) are required to enroll in 9 units to be considered full-time, until they have passed the written comprehensive exam. After passing the written comp exam, a full-time physics student, or GA, must enroll in a minimum of 6 units. [The Graduate College policy](#) covers all other situations.

**Will I have an advisor?** Yes, UA Physics recognizes the importance of advising relationships to student success. The Physics Department has several [faculty advisors](#) assigned to all physics graduate students that have not passed the oral comprehensive exam. Additionally, first year students are assigned a graduate student mentor by the graduate student council. Advising for more senior students is done primarily through their research advisor. Finally, of course, the DGS, all members of the physics faculty, and current grads, are happy to assist and advise our graduate students.

**I've entered the Ph.D. program with an MS degree or graduate course credit. Can I transfer credits?** Yes, you may be able to do so. The DGS will review the credits you wish to transfer. Please provide: a detailed list of courses, credits or credit hours for each course, textbook used, grades received, and a syllabus (if available). If the course is deemed equivalent to one of the core courses, you will have the option to take a test to pass out of taking that course. This exam must be completed by the end of the second week of the semester that course is offered. The grade received on the exam will be used in the calculation of the core course GPA. Only grades of A or B will allow you to skip the course. For Graduate College regulations on transfer of credit visit [grad.arizona.edu](http://grad.arizona.edu).

**When can I start to register for thesis credits (PHYS 920)?** Students may register for PHYS 920 only after they have passed both portions (written and oral) of the Comprehensive Examination. Note that you cannot register for more than 9 PHYS 920 credits per semester.

**If I choose Physics as my minor, which courses should I take?** If Physics is chosen as the minor as well as the major, the minor requirement is fulfilled by 9 additional credits consisting of at least 3 graduate-level courses. Together, these 3 courses should provide at least three credits from three of the following eight areas. Courses below are listed merely as examples, and additional courses (including courses from outside the Physics Department) may be considered as part of these areas with the approval of the DGS.

Classical Mechanics and Mathematical Physics: 522, 541, 576

Atomic, Molecular and Optical Physics: 534, 544(Op.Sci.), 549(Op.Sci.), 573, 646(Op.Sci.)

Condensed Matter Physics: 560A, 560B, 561, 562, 566

Quantum and Particle Physics: 579A, 579B, 579C, 581, 586

Nuclear Physics: 551

Gravity, Astrophysics and Cosmology: 569, 582, 589

Experimental Physics: 505, 573, 586

Biological Physics: 531

It is expected that this minor requirement be satisfied through actual courses rather than Independent Studies. However, exceptions can be granted in special situations.

**What if I decide to do my minor in another department?** Students choosing a minor in a different department must satisfy whatever minor course requirement(s) the other Department demands. In some cases, the minor requirements may include you having to take the Comprehensive Exam in that department. Before you decide on a minor in a department other than Physics, please notify the DGS in Physics and inquire with the DGS in the other department about their minor requirements.

Note that the Graduate College requires you to have **a representative of the minor department on your committee for the Oral portion of the Comprehensive Exam.**

**How long is this all going to take?** Most of our students graduate during their 5<sup>th</sup> or 6<sup>th</sup> year here. Upon entering your 6<sup>th</sup> year the DGS may request a detailed plan/timeline for completion of the Ph.D.

**What is the policy on receiving an incomplete (grade of I)?** See the [University of Arizona Registrar's policy on incompletes](#). You'll be required to fill out the [Contract of Incomplete Grade form](#) with your instructor. Remember expired incompletes become Es and that requests to extend time to finish an incomplete must be requested before the I expires.

**Standards for Satisfactory Student Progress:**

The most important goals in the first two – three years of graduate school are performance in courses and passing the written and oral comprehensive exams. Students are expected to maintain a minimum cumulative 3.0 GPA. A student whose GPA falls below 3.0 will be

placed on [academic probation](#) and may not be allowed to be a Teaching Assistant/Research Assistant (TA/RA). The student will then meet with the DGS to develop an academic plan to improve their GPA. The DGS talks informally with instructors of the core physics courses about twice a semester to see if any students have significant struggles. If so, the DGS advises the student about possible courses of action. The DGS reviews the independent study proposals of all students.

Students working on PhD research will complete an annual oral or written report on their research progress to their thesis committee. The results are monitored by the DGS.

## 2. THE COMPREHENSIVE EXAMINATION (WRITTEN AND ORAL PORTION)

The Written and Oral Comprehensive Exam consists of a research proposal that needs to be completed and defended in a single semester, no later than the 5<sup>th</sup> semester in the Ph.D. program. The main purpose of this exam is to test the student's ability to identify and analyze a complex physical problem that may or may not be directly related to their future dissertation research. The student must present approaches that can potentially lead to a solution to their stated problem. The research proposal will be graded by a comprehensive exam committee consisting of five faculty members, which may include the student's research advisor, if any.

### 2.1 WRITTEN PORTION

**What is the exam format?** The written portion of the exam must be less than 10 pages (not counting references) with a minimal font size of 11pt Times New Roman, and must contain the following sections:

- Abstract (less than 250 words)
- Motivation
- Specific Aims
- Background Information (literature survey)
- Research Plan (methods, expected outcomes, etc.)
- References (no page limit for this part)

Students may consult with others in choosing the topic of the proposal and in designing the research plan, but they must complete the writing and editing of the proposal independently.

#### **What is the timeline for the written exam?**

1. At the end of the 3<sup>rd</sup> semester (or earlier), the student needs to have a completed Plan of Study approved in GradPath.
2. By the end of the first week of the semester chosen to complete the comprehensive exam (no later than the 5<sup>th</sup> semester), the student must select a proposal topic, in consultation with the student's advisor, and form a five-member comprehensive exam

committee. This committee needs to be approved in GradPath by the end of the first week of the semester.

3. By the end of the fourth week of the semester, the student submits the written proposal to the committee.
4. By the end of the sixth week of the semester, the comprehensive exam committee will have graded the proposal. The grade will be either pass or not pass, determined by the majority of the committee. In the event that a student does not pass, the committee will provide comments to the student at that time.
5. For students that do not pass in the sixth week, they can submit a revised version of the proposal to the committee for final evaluation by the end of the ninth week of the semester. The grade will be reported back to the student by the end of tenth week of the semester.
6. After passing the written portion of the exam, the student must defend the proposal as part of the oral portion of the comprehensive exam by the end of twelfth week of the semester.

**Who and how many faculty are on my committee?** Together with your research advisor, you choose 5 committee members (including the advisor). The majority of the committee members must have a primary appointment in Physics. The makeup of this committee shall conform to all regulations of the Graduate College.

**Important note when your minor is NOT in Physics:** you need to make sure that there is a representative of the minor department on your committee during the oral portion of the comprehensive exam.

Following the comprehensive exam, the committee will meet yearly with the student to evaluate progress towards the degree.

**What happens if I fail the written comprehensive exam?** Students failing the comprehensive written exam after revisions in the ninth week, will be eligible to earn an M.S. degree if they complete the other requirements of that degree. All requirements for the M.S. degree must be completed by the end of the 5<sup>th</sup> semester.

**For students enrolled Fall 2019 or earlier:**

- **Students who enrolled before Fall 2017** are expected to pass the old written format of the comprehensive exam by their 6<sup>th</sup> semester at UA.
- **Students who enrolled in Fall 2017 through Fall 2019** have the option of passing the old written exam format or switching to the new written format and passing the 6 core courses with above a 3.1 GPA.
- **Students remaining with the old format** will need to pass all four subjects (classical, quantum, electrodynamics and statistical mechanics) by the end of their 6<sup>th</sup> semester in the program. They will also need to pass the oral portion of the comprehensive exam by the end of their 6<sup>th</sup> semester.
- **Students who wish to switch to the new format**, and have passed at least one exam, will be given a grade based on their comprehensive exam score. Scores of 50-75% (Above 75%) will receive a B (A) in calculating the core course GPA for those subjects. Students will have the option of using the higher of their course grade or exam grade for each subject. Students that started in Fall 2017 need to complete the course requirements by the end of Spring 2020. All other students need to complete the course requirements by the end of their 5<sup>th</sup> semester. After satisfying the core course requirements, students will move on to the new written and oral comprehensive exams. Students will take these exams in the semester after passing the course requirements or their 6<sup>th</sup> semester whichever is later.
- It is not our intention to unnecessarily cause hardship or fail students. So, if you feel you will fall through the cracks somehow, please let the DGS know ASAP, so we can take appropriate action.

## 2.2 ORAL PORTION

**When do I take the oral portion of the exam?** The Oral Exam is taken during the 12<sup>th</sup> week of the semester that the student submits the written comprehensive exam. Once you have found a suitable time to meet with your committee for the exam, make sure you submit the Oral Exam announcement form on GradPath. This should be done 4 weeks before the exam so that your advisor may submit the result immediately after the exam.

**What is the format of the exam?** The oral part of the comprehensive exam asks students to defend their written research **proposal** to the student's intended **Ph.D. thesis committee** in a well prepared presentation (~45 minutes), which then is to be followed (and/or interspersed) with general Physics questions geared towards the research topic. Note: it is not necessary that you already have done parts of the research (although many students will have done so). You need to be able to defend your proposal for research.

**How long is the exam:** The duration of the Oral Exam shall not be less than one hour or exceed three hours.

**What if I fail?** Students shall be allowed a maximum of 2 attempts at passing the oral portion of the Comprehensive Exam, but shall not change the composition of the committee, except with the permission of the DGS and the Graduate College. The second attempt must occur during the same semester.

## 3. BETWEEN ORAL AND PH.D. DEFENSE: SATISFACTORY PROGRESS

**I have completed all course requirements, Written and Oral Comprehensive Exams, and 18 dissertation units, can I register for less than 6 credits?** If you have completed all course requirements, the written and oral portion of the Comprehensive Exam, and the 18 thesis credits you may register for 1 credit to maintain continued enrollment. However, certain rules apply. For example, for students holding teaching or research assistantships/associateships, the minimum enrollment required is 6 graduate units. Visa issues may apply for international students. Please consult: <http://grad.arizona.edu/academics/policies/enrollment-policies/minimum-enrollment> and <http://grad.arizona.edu/academics/policies/enrollment-policies/continuous-enrollment> for details and make sure to confirm with Teresa Plaskett, our Graduate Coordinator ([tplaskett@arizona.edu](mailto:tplaskett@arizona.edu)).

**Finding a thesis director.** Starting no later than the fourth semester, each graduate student must have a substantive affiliation with a Ph.D. or research group and be making demonstrable progress towards the completion of the Ph.D. degree.

**Yearly report of your progress.** Once students have passed their Comprehensive Exam, they are required to meet yearly with their Ph.D./Oral Exam committee and give a short (~15 minutes) seminar to report on progress made. Students have to bring the report form, <http://w3.physics.arizona.edu/sites/default/files/forms/GradStudentProgressReport.pdf>, to this



meeting. At the time of signing your TA or RA contract, it will be checked if you are in compliance. If not, contract signing will be delayed until a committee meeting date (within 4 weeks of contract signing) has been set. If necessary, the student may consult with the Director of Graduate Studies or the Graduate Coordinator, if special circumstances exist.

**Changing research direction.** While students remain free to change Ph.D. advisors or alter the direction of their research program, there must be constant, forward progress towards the Ph.D. degree. Maintaining active status in the Ph.D. program shall be contingent on continuing satisfactory progress.

**What happens if research progresses slowly?** Note that according to Graduate College regulations, students who do not complete all requirements for the Ph.D. within five years of passing the Comprehensive Exam will be required to retake the Comprehensive Exam, with the permission of the Physics Department. In such situations, students may consult the Director of Graduate Studies to see if waivers can be granted. You should also check the Graduate College website for any recent changes in policies.

Alternatively, in some cases the 10-year rule can be applied, in which case graduation should occur within 10 years of having started in the degree program.

#### 4. THE DISSERTATION DEFENSE

Ph.D. students are required to defend their dissertation in an oral examination before their degree can be granted.

**When am I ready to defend my thesis?** This examination is distinct from the Comprehensive Exam and occurs at the end of the dissertation work, by mutual agreement between the student and the dissertation director. In the rare occasion that such agreement cannot be reached, please contact the DGS. The DGS will then contact the dissertation director as well as the committee to whom you reported your yearly progress in order to resolve the issue.

**I have no publications. Can I defend my thesis?** Almost all students graduate with either published work, or work submitted for publications. However, the Ph.D. program does not require a minimum number of publications as this may vary strongly among the different Physics disciplines. Your dissertation director and thesis committee will advise you about their expectations for publications. Note that publications are of the utmost importance for a post-doctoral academic career.

**The Ph.D. Thesis Committee.** The makeup of this committee shall conform to all regulations of the Graduate College (see <http://grad.arizona.edu>), and consist of a minimum of five members primarily of the faculty in the Physics Department. Exceptions are possible when students perform research in a department other than Physics. However, at all times a majority of the committee needs to hold an appointment in Physics. It is advised that this

committee is identical or similar in make-up to the Oral Comprehensive Exam Committee that also monitors your yearly progress towards the degree.

**Time-critical events before the exam takes place:**

At least **4 weeks** before your planned date of the thesis defense you must:

- 1) check if your plan-of-study has been approved and is up to date in GradPath,
- 2) submit the Doctoral Dissertation Committee form in GradPath,
- 3) submit the planned date of the defense to the Graduate College in GradPath,
- 4) reserve a room for the defense (for PAS 218 see the Physics front office).

At least **2 weeks** before the exam: your committee receives a copy of your thesis.

**One week** before the exam: email an announcement with time and place of your defense to the Physics Department.

**Archiving your dissertation:**

We are happy to inform you that the Graduate College will no longer assess any fees for students to archive their dissertations and theses upon completion of their degree programs. In the past, these fees were charged to doctoral students at the time they advanced to doctoral candidacy. The submission process is explained in detail at <http://grad.arizona.edu/gsas/dissertations-theses/submitting-your-dissertation>.

All doctoral dissertations are available to the public through the UA Campus Repository <<http://arizona.openrepository.com/arizona/handle/10150/129651>> and available through ProQuest's Dissertations and Theses subscription database (subject to any restrictions requested by the students).

Please direct any questions to Annie Prisbrey in the Graduate Student Academic Services office: [aprisbrey@arizona.edu](mailto:aprisbrey@arizona.edu) or (520) 621-3484.

## 5. DOCTORAL CONTINUOUS ENROLLMENT POLICY

A student admitted to a doctoral program must register each fall and spring semester for a minimum of 3 graduate units from original matriculation until the completion of all course requirements, written and oral comprehensive exams, and 18 dissertation units. When these requirements are met, doctoral students not on financial assistance and/or needing to maintain appropriate visa status, must register for a minimum of 1 unit of dissertation credit each semester until final copies of the dissertation are submitted to the Graduate Student Academic Services Office. Please see the Graduate Coordinator to confirm that your requirements are met, before you register for the 1 unit of dissertation credit.

If only the Final Oral Exam (the defense) is completed during the summer or winter term, the student has maintained continuous enrollment, and has fulfilled all 18 required dissertation credits, registration is not required.

Students receiving funding such as assistantships, fellowships, loans, grants, scholarships or traineeships may be required by their funding source to register for more than 1 unit to meet full-time status requirements, and should check with their program advisor regarding such requirements to ensure that they remain qualified for funding.

Doctoral students who have maintained continuous enrollment and are taking only comprehensive exams during either summer or winter term do not have to register for graduate credit during that summer or winter session.

Doctoral students who have maintained continuous enrollment, fulfilled all their other degree requirements as well as the 18 hours of dissertation and were enrolled in the prior semester may defend in the summer or winter term without registration. If, however, a student needs library privileges in the final semester, enrollment is required.

## 6. OTHER

### **Colloquium**

In the first year, graduate students are required to attend all Physics Department Colloquia (usually held Friday afternoons) as an introduction to the excitement and breadth of current research in Physics.

### **EOAA meeting**

As one step towards the Department's goal of maintaining a healthy and supportive working environment for all Department members, including women and minorities, the Department will schedule periodic meetings between graduate students and a representative of the University's Equal Opportunity and Affirmative Action (EOAA) Office. These information sessions are designed to explain University policies and procedures, and to educate students concerning their rights and obligations under these policies. In order to ensure that all graduate students receive this training, all graduate students are required to attend at least one of these scheduled meetings during their residence, preferably soon after their entrance into the graduate program. The EOAA meeting is a required component of the Physics graduate orientation for incoming students.

### **"Grandfather" policy:**

These rules, as well as any subsequent versions of these rules, shall apply to only those students entering the Ph.D. program after these rules are enacted. Students already in the program shall have the option of conforming to either the new rules or the rules that were already in force at the time of their entry into the program.

As a general policy, all rules and regulations are intended to be interpreted as broadly and flexibly as possible while remaining consistent with the intellectual (educational and research) missions of the Ph.D. program. Special cases and exemptions can be granted, when appropriate, by the Director of Graduate Studies, and students are encouraged to discuss such options with the Director of Graduate Studies or with any of the Graduates. Students must also ensure that they satisfy all rules determined by the Graduate College, which may be independent of those rules listed here. Students can also file petitions with the Department of Physics or the Graduate College to seek exceptions to these policies.

### **Career Options**

The physics department recognizes the importance of preparing graduate students for non-academic career opportunities. This is an area which needs development, and plans exist for the creation of a LinkedIn page for networking, hosting PhD alumni from the private sector to come to UA and talk, and an annual job fair. In addition, the department is considering giving credit in the major for skill related elective courses such as this:

<http://cos.arizona.edu/content/graduate-certificate-science-communication>, offered as part of the graduate certificate in science communication.

University of Arizona career development resources can be found at <https://career.arizona.edu/>.

## Departmental requirements for the Master of Science degree (Physics)

The Physics Master's degree is intended for those students who wish to certify their mastery of Physics coursework at the graduate level; such students may or may not go on for a Ph.D. in Physics. This document applies exclusively to the requirements for the M.S. degree in Physics.

For graduate college policies/rules make sure to check

<http://grad.arizona.edu/academics/program-requirements/masters-degrees>

The requirements for the M.S. degree are as follows:

- 1) 30 graduate credits
- 2) Students are required to have taken the six core courses (PHYS 511, 515A/B, 528, 570A/B).
- 3) Students are required to have passed an Oral Comprehensive Exam. The Oral Comprehensive Exam may entail either:
  - a) an oral defense of a Master's Report; or
  - b) an oral defense of the Written Comprehensive Exam; or
  - c) an oral examination on the core Physics knowledge taught in the six core courses.

Students choosing to write a Master's Report may enroll in up to 3 units of PHYS 909 (Physics Master's Report) for credit. Since this is considered an internal report and not an official "thesis", you should not report a thesis committee in GradPath. See the Graduate Coordinator to enroll in PHYS 909.

Students completing a Master's Report (PHYS 909), will not submit their report for archiving.

Students who have passed both the written and oral portions of the Ph.D. Comprehensive Exam are encouraged to obtain the M.S. degree enroute to the Ph.D. degree.

**Important:** Contact the Physics Graduate Coordinator ([tplaskett@arizona.edu](mailto:tplaskett@arizona.edu)) for a Change of Program form to add the Master's program.

## Resources

**Where do I go if I need help resolving problems with a faculty or staff member, or with one of my fellow students?** You should always feel free to contact your department head, advisor, or the Director of Graduate Studies for advice. However, if you are not 100% comfortable with that, to determine who can best help you, use the [guide to grievance types and responsible parties](#) assembled by the Graduate College. If students have concerns, they can also meet with the Associate Dean of the Graduate College. Another alternative is to meet with the Ombuds Committee, a UA service for informal, confidential problem resolution. Information on how they can help may be found at <http://ombuds.arizona.edu>.

**Coping with the stress of graduate studies.** Professional help is available at <http://www.health.arizona.edu/caps.htm>.

**How do I appeal grades or comprehensive exam results?** Graduate students should refer to the university catalog for the [grade appeal policy and procedures](#). Appeals related to the physics written comprehensive or oral comprehensive exams are rare, but in any case should start with a written appeal request to the director of graduate studies for consideration by the physics exam committee. Appeals on oral comprehensive exams require approval from the DGS and the Graduate College.

**How do I appeal other decisions?** Appeals in matters not related to grades or the comprehensive exam are brought to the attention of the DGS and documented in writing. For matters relating to the DGS, the student should register the appeal directly with the Department Head.

**Graduate and Professional Student Council.** The GPSC has many resources of value to Ph.D. students. It should be your first resource when looking for grants for student travel to conferences, student clubs, and other resources. Make sure to visit their website <http://www.gpsc.arizona.edu/>.

**Physics Graduate Student Council (GSC).** Grad students in the physics department are represented by the graduate student council (GSC). When matters relevant to the graduate students arise, the department head or director of graduate studies (DGS) will contact the GSC by e-mail or in person to inform them of the issue. Often this may result in the GSC collecting opinions from the grad students and then responding to the head or DGS. Conversely, the GSC will contact the DGS or head when there arise issues of concern to the grads which they feel need to be addressed by the department administration. Additionally, each academic year a least one town hall meeting with the head and DGS will be held to collect important issues held by the graduate students.

**Women in Physics** is an active graduate student-run club that aims to promote the inclusion of women and the awareness of gender biases in Physics. All students are welcome to join and attend any of the meetings and events. We organize events ranging from social activities, such

as BBQs; Physics outreach such as helping with elementary school science fairs; and professional events such as hosting invited speakers from academia and industry. For more information about the group and upcoming events please visit <https://www.azwip.com/>.

**Work and Study Space.** Physics graduate students can study and meet in the graduate student lounge located in PAS 345. Physics TAs are supplied desks and office cubicles. RAs typically have offices in the research group in which they work.

**Technology.** All physics graduate students are provided Linux accounts on physics department servers. Each TA group office includes 1-2 common-use Windows PCs. WiFi service is provided throughout the physics building, and Ethernet cables are available for graduate students to connect their laptops to the department network. The physics computing lab contains 27+ Windows PCs for student use.

## Other Important and Useful Links

**University Policies and Codes:** Students are responsible for knowing and adhering to all university policies.

[General Catalog](#)

Research integrity is particularly important. The first step in GradPath is responding to the ethics statement. [Responsible Conduct of Research Statement](#)

[Academic Integrity](#) and [Student Code of Conduct](#)

**Family Friendly Information:** The Graduate College is dedicated to promoting and strengthening family relationships. Many [resources](#) have been designed to help graduate students balance and manage family, work, and school.

[Graduate Assistant/Associate Parental Leave](#)

[Temporary Alternative Duty Assignments \(TADA\) for Teaching Assistants/Associates](#)

[Extension of Time to Degree Policy](#)

[Life & Work Connections](#) - Child and Elder Care Resources

## Teaching and Research Assistantships (TA, RA)

**Is there a maximum number of hours I am allowed to get paid for as a TA or an RA?** Yes, graduate assistant/associate appointments in Physics, generally, may not exceed a maximum .50 FTE (20 hrs/wk), during fall and spring semester. Enrolled graduate assistant/associates with .50 FTE (20 hours per week) or less during the academic year may work during the summer months. The standard for summer supplemental compensation is 155 hrs/mo. However, make sure to check with your research advisor and the business office because precise hours and regulations can change.

### **How much will I get paid? (precise amounts may change w/o notice)**

Before passing the comprehensive exams, you'll get paid \$9,384 per semester, at 0.5 FTE (20 hrs/wk), based on annualized 1.0 FTE salary of \$37,536.

After passing the comprehensive exams, you'll get paid \$9,690 per semester, at 0.5 FTE (20 hrs/wk), based on annualized 1.0 FTE salary of \$38,760.

Current summer teaching assignment rates are \$2,895 for labs and \$4,250 for lectures. Summer supplemental compensation positions and rates must be approved by the supervisor and arranged through the physics business office.

For benefits/health care see <http://grad.arizona.edu/financial-resources/ua-resources/employment/ga-manual/ga-benefits>

Other related GA/TA information at <http://grad.arizona.edu/financial-resources/ua-resources/employment/GA>

**I have little teaching experience. Is there any TA training available?** Yes, all incoming graduate students are required to participate in TA training provided by the Physics department. You will receive a schedule of training dates. In addition, your teaching will be evaluated by a faculty member who will visit one (or more) of your labs.

### **What are my TA duties?**

- 1) Most TA will teach labs, and/or grade homework
- 2) Office hours and consultation room hours:
  - 0.25 FTE Lab TA's are expected to have 1 office hour and 1 consultation room hour per week.
  - 0.50 FTE Lab TA's are expected to have 2 office hours and 1 consultation room hour per week.
  - Sign up for consultation room hours at ASO, PAS 260.
  - Office Hours should not conflict with the associated lecture time.
- 3) Attendance at the weekly lab meeting is required.
- 4) Miscellaneous requirements
  - Teach as directed.



- Be in the room/lab 5 minutes early when teaching
- If unfamiliar with the experiment, do a practice run, and write an outline of the lab report.
- Grade and return lab reports in **one** week.
- Grade tests and homework in time frame requested by the instructor.
- Provide to lab manager, faculty member and ASO copies of 1) your course information sheet, and 2) recorded grades weekly.
- Contact Rohit Singh, and find a replacement, if you cannot make your assigned lab section.
- Find a replacement if you cannot make consultation room hours.

**Note: Priorities in future TA assignments are dependent upon your performance/behavior as a TA in previous semesters.**