

Applied Physics Graduate Program

Graduate Student Handbook



This handbook provides general guidelines for Applied Physics graduate students. In addition to being in agreement with the regulation stated in this program handbook, students must also be in agreement with the [General Announcements](#) (GA) and the [Code of Conduct](#).

In case there is conflicting information, university-wide regulations take precedence over the institute and program regulations, which take precedence over research group-wide regulations.

In doubt, students should seek help first at the program level ([graduate administrator](#), advisor, program chair) and then at the central administration level ([Graduate and Postdoctoral Studies](#).)

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**RICE QUANTUM
INSTITUTE**

RICE UNIVERSITY

1. Applied Physics Faculty & Staff

Chair, Applied Physics (APP)	Kevin Kelly
Vice-Chair, Applied Physics	Emilia Morosan

Applied Physics Curriculum and Admissions Committee (APCAC)

Jason Hafner	Naomi Halas
Kevin Kelly	Thomas Killian
Junichiro Kono	Christy Landes
Emilia Morosan	Douglas Natelson
Isabell Thomann	Tomasz Tkaczyk
Rafael Verduzco	Erzsébet Merényi

Rice Quantum Institute (RQI)

Executive Director	Alberto Pimpinelli
Director	Naomi Halas
APP/RQI Administrator	Carol Lively

2. Academics: Overview

The Rice Quantum Institute offers an Applied Physics graduate program (APP) leading to the Doctor of Philosophy (Ph.D.) The program does NOT offer a stand-alone thesis Master of Science degree; students admitted to our Ph.D. program with a bachelor's degree are required to earn the M.S. within the program before proceeding to the Ph.D.

Students admitted with an approved previous M.S. degree will need to discuss specific requirements with the Applied Physics committee chair and student's advisor. Previous M.S. degrees are approved or denied contingent upon the approval of the student's advisor and the Applied Physics Curriculum

and Admissions Committee (APCAC). Some courses may still be required as core courses cannot be waived. Denied previous M.S. degrees require the student to obtain a Rice Applied Physics M.S. degree before continuing on to the Ph.D. degree.

2.1 Graduate Application

The online application for admission is located at <https://apphgradapps.rice.edu/>.

The application process is opened beginning on September 1. Admissions are for the fall ONLY and the deadline is **January 15**. Late applications will NOT be considered.

The application fee is \$85, payable by credit card. Applicants with financial needs may be eligible for application fee waivers; please see the list of accepted waivers below.

University-paid application fee waivers include:

- IRT (Institute for Recruitment of Teachers)
- McNair Scholar Program
- Nankai University Hundred Young Teachers Program
- Project 1000
- VEF (Vietnam Education Foundation)

Successful applicants to the Ph.D. program must have a minimum Grade Point Average (GPA) of 3.0 on a 4.0 scale. Our average admitted students obtain GRE scores in the range of V166 (V533 on the previous scale) and Q163 (Q770 on the previous scale) and above. The average TOEFL iBT score for admitted international students is 99.

The general GRE is required for admission to the Applied Physics program, but the GRE Physics subject exam is not required. If applicants have taken the Physics subject test, then scores should be indicated on the application.

Minimum TOEFL scores for international applicants are 600 (paper), 250 (computer), and 90 (iBT). TOEFL requirements for the Ph.D. program may be waived for students who have received a degree from a university where English is the official language of communication.

For internationals admitted to the program, proof of financial support is also required.

2.2 Degree Program

Students admitted to the Ph.D. program are fully funded by the Rice Quantum Institute for the first 9 months of study with a monthly stipend and tuition waiver. They are also accepted by an appropriate host department and enjoy day-to-day association with faculty and students in that department.

The Ph.D. program is full-time only with a minimum of 9 credit hours during the spring and fall semesters (6 hours if registered in the summer.) Ph.D. students are required to fulfill several

semesters of grading as part of the degree requirements. The number of semesters is determined by the host department with which the student is affiliated.

At the end of their first year and continuing throughout subsequent years, APP students will select a faculty advisor and affiliate with that research group, who is then responsible for funding of the student's stipend and research expenses. (See section 2.4 for additional details.)

A 3.0 GPA (B) must be maintained in major and minor coursework. Only courses in which a grade of B- or above is achieved will be counted towards the M.S./Ph.D. degrees. Students whose GPA falls below a 2.33 will be placed on academic probation by the university. For more information see the [Academic Discipline section of the General Announcements](#).

2.3 Research Groups

Because of the interdisciplinary nature of the Applied Physics program, there are a number of research groups in Engineering and Natural Sciences available to students.

Some of the thematic areas include:

- Biophysics
- Condensed Matter Physics/Quantum Matter
- Photonics and Plasmonics
- Nano/Advanced Materials
- Nanoscience/Nanotechnology
- Atomic, Molecular, Plasma, and Chemical Physics
- Applications-Emerging Technologies

During the first semester of study, students will be invited to attend brown bag seminars hosted by faculty across a broad range of disciplines. These seminars allow students to meet the faculty and learn about research being done at Rice University that is pertinent to the APP program. These seminars will help students find an area of interest, research group and advisor.

It is the responsibility of the student to talk with faculty about the likelihood of joining a particular research group. Students should begin these discussions as early in the fall semester as possible.

2.4 Academic and Research Advisors

Decided no later than April 1 and starting on May 15 at the end of their first year, and continuing throughout subsequent years, APP students will select a faculty advisor and affiliate with that research group, who is then responsible for funding of the student's stipend and research expenses. Students desiring to work with someone who is not a faculty fellow of the Rice Quantum Institute may do so only with the permission of the Applied Physics Curriculum and Admissions Committee (APCAC).

At this time the students should complete the Research Proposal & Affiliation form which includes a brief description of their planned research. Once the advisor has been chosen, students will, as a rule, be hosted by the same department as their advisor. Exceptions may be considered depending on the ability to grade courses in that department, subject to approval by the advisor and the concerned department chairs. All changes of host department are submitted to the RQI/APP Administrator and sent to the APCAC as well as the old and new departments for approval.

After affiliating with a research group, stipend decisions are determined by the faculty member and/or the host department. Students are responsible for discussing salary issues with their respective advisors. Initial salary discussions should be held before officially affiliating with a research group.

2.5 Advice on Changing Research Groups or Host Department

Rice recognizes research interests may change after a student enters a graduate program. If a student feels his/her interests and talents could be better served working with a different advisor or in another research group or department, a change can be accommodated. Although each case is unique, following are guidelines for making an advisor/group/department switches:

- Discuss issues with current advisor. Often an adjustment of research topic may resolve the problem.
- If issues are insurmountable, speak with faculty members whose research interests are more in line with the student's and who have the funding for support.
- When an alternate faculty member agrees to replace current advisor, obtain permission from the APP Chair, then proceed to the Graduate Program Administrator, who will process the documentation required for the exchange.

2.6 Honor System and Student Code of Conduct

The student body at Rice, through its commitment to the Honor Code, accepts responsibility for assuring the validity of all examinations and assignments. The Honor Council is responsible for investigation of all reported violations and for trial in those cases where the facts warrant.

Graduate students are expected to observe the provisions of the Rice University Honor Code. Violations may result in serious penalties including a failing grade in the course and suspension from the university.

The faculty will state the restrictions applying to various forms of class work. If there is doubt about the conditions for a particular assignment, it is the student's responsibility to contact the faculty member in charge of the course.

Please refer to the Rice University General Announcements for the [Honor System](#) and [Student Code of Conduct](#) for more information.

2.7 Research and Scholarly Activities

Please refer to the Rice University General Announcements regarding [Research and Scholarly Activities](#), as well as the following Rice policies: 324-00 [Research Misconduct](#), 326-98 [Human Health and Safety in the Performance of Research](#), 333 [Patent and Software Policies](#), and 334 [Copyright Policy](#).

3. Coursework

3.1 Core and Elective Requirements, Course Waiver Requests

The Ph.D. program prepares students for research careers in academia and industry. Students admitted to the Ph.D. program are required to complete 90 hours of credit, including research and teaching, beyond the bachelor's degree. Four semesters of full-time study at Rice are also required.

The first academic year concentrates on foundation coursework followed by focus on a research area. First-year students should meet with a selected member of the APCAC to determine first semester coursework. The first year consists of a minimum of 18 hours of coursework. Students will meet with their advisors to plan coursework for all subsequent years.

For the Ph.D. degree in Applied Physics, the student must fulfill the University requirements set forth in the catalog under which he/she entered or any subsequent catalog. The semester hour requirements may be fulfilled both by classroom hours and research hours. Nine one-semester graduate level courses of no less than 3 credits hours or higher are required, divided into 4 Core and 5 Elective courses.

The Master of Science (M.S.) degree is offered only as a precursor to the Ph.D. degree. It requires at least 33 semester hours of credit beyond the Bachelor's degree (typically 27 hours of course credit, as specified above, and at least 6 hours of APPL 800 credit.)

If a similar M.S. has already been earned under another school/program, candidates may petition their research advisor and APCAC to waive the M.S. requirement, though curricular and teaching requirements must still be fulfilled. If during the student's previous thesis Masters study one or more of the core courses were not taken, these must be completed before a Doctoral degree can be awarded.

Similarly, if the APCAC committee deliberates that not enough total courses were taken for the previous thesis M.S., completion of a certain number of additional elective courses may be required of the student.

Core Courses:

- Quantum Mechanics I
 - o For Quantum Mechanics I, either PHYS 521 or CHEM 430
- Quantum Mechanics II OR Statistical Mechanics
 - o For Quantum Mechanics II, either PHYS 522 or CHEM 531
 - o For Statistical Mechanics, either PHYS 526 or CHEM 420
- Classical Electrodynamics. PHYS 532
- Solid State Physics. PHYS/ELEC 563

Elective Courses:

Five courses may be selected from a list of approved courses offered by different departments in Natural Sciences and Engineering. These are chosen according to the research directions of the student. The up-to-date list is maintained at <http://rqi.rice.edu/curriculum>. Other courses may be considered to count as electives on a case-by-case basis by petitioning and obtaining approval from the APCAC. See Appendix A for a list of suggested specialization curricula.

Course Credit Transfers and Elective Credit Requests:

Particular Core course requirements may be transferred for students who have had similar courses elsewhere and who demonstrate a thorough knowledge of the material in the course at Rice. To receive a course transfer credit, the course cannot be part of the credits for a previous degree, a copy of the official transcript must be provided, a copy of the class description from the syllabus must be provided, and the Graduate Transfer Request for Credit must be completed. (Visit the Office of the Registrar's website for university guidelines at http://registrar.rice.edu/students/grad_transfer/) The concurrence of the faculty member teaching the relevant course at Rice and the APCAC must be obtained.

For elective classes completed at Rice and not on the Approved Electives list, the approval of APCAC is required. Elective courses must be no less than 3 credit hours to be eligible. To make a request, send an email to the Applied Physics administrator with the class number, title, and description, noting that the request is for credit for an elective not on the approved list.

No courses may be used for fulfilling both Core and Elective requirements. Due to overlap of curricula, only one from each of the pairs PHYS 521/CHEM 430, PHYS 522/CHEM 531 and PHYS 526/CHEM 420 may be used for the nine required courses. No courses previously used to fulfill the requirements of a Bachelors or professional Masters or other degree will be accepted as course electives.

Qualifying exams of the host department will not be required of the APP students. However, for the students' own benefit we strongly advise that they enroll in any required seminar courses with the final decision being left up to the students and their advisors.

3.2 Registration, Drops, and Adds

Students register for courses online through their Esther account. For a list of registration deadlines, consult The Office of the Registrar's website at www.registrar.rice.edu. Below are links to current and upcoming academic calendars in PDF format.

- [Fall 2014](#)
- [Spring 2015](#)
- [Fall 2015](#)

3.3 Grades, Department Duties, Employment, Academic Status

Grades:

University guidelines state that to graduate, students must achieve at least a B- (2.67) GPA in each course counted toward the graduate degree. Some programs and departments have more stringent standards. For Applied Physics, a grade of at least B- (2.67) must be achieved in each of the four Core courses. A Core course may be repeated once to bring the grade up to this level, applicable to a maximum of 2 Core courses. The overall Grade Point Average of all Core and Elective Courses must be a B (3.0) or better. For repeated Core courses, the GPA calculation for satisfaction of this requirement will not include the first grades of repeated Core courses.

To compute GPAs, the credits attempted in semester hours for each course and the points for the grade earned (from A+ = 4.33 to F = 0.00) are multiplied, then the products (one for each course) are added together, and the sum is divided by the total credits attempted.

Pass/Fail:

All students, except Visiting Post Baccalaureate students, may take course(s) Pass/ Fail outside their department. They must file a course as Pass/Fail no later than the end of the 10th week of classes; however, they may later convert a Pass/Fail to a graded course by filing the appropriate paperwork with the [Office of the Registrar](#). Students should be aware that while a grade of P does not affect their GPA, a grade of F does.

Satisfactory/Unsatisfactory:

Some departments may assign a grade of Satisfactory (S) or Unsatisfactory (U). Students should be aware that while a grade of S or U does not affect their Grade Point Average, no credit will be awarded if a grade of U is received. Courses with a grade of S will count towards total credits earned.

Incompletes:

Instructors report this designation to the Office of the Registrar when a student fails to complete a course because of verified illness or other circumstances beyond the student's control that occur during the semester. For an incomplete received in the fall semester, students must complete the work by the end of the fourth week of the spring semester or an

earlier date as defined by the instructor, and instructors must submit a revised grade by the end of the fifth week. For an incomplete received in the spring semester, students must complete the work before the start of the fall semester or an earlier date as defined by the instructor, and instructors must submit a revised grade by the end of the first week.

Audit:

The grade designation of Audit (AUD) is used for people auditing a course, and specifically when the auditing student has met the audit requirements of the course. A grade designation of NC is given to students who do not meet the audit requirements. Requests to audit a class or to change from audit to credit or vice versa must be done by the end of the second week of the semester.

Departmental Duties

In most research degree programs, students must undertake a limited amount of teaching or perform other services as part of their training. Assigned duties should not entail more than 10 hours per week, averaged over the semester, or extend over more than eight semesters. All APP students are expected as part of their graduate education to perform some teaching and/or grading. The precise duties are set by the host department, which subsequently provides written certification of fulfillment of teaching/grading responsibilities to the APP.

Academic Status:

The student's research advisor and the APCAC will review the student's research progress and academic status each semester to ensure the student is making satisfactory progress in the program.

Students must maintain continuous program involvement and enrollment unless granted an official leave of absence. See [Leaves and Withdrawals](#) in the General Announcements for more information.

3.4 Host Department Seminars, Classes, and Qualifying Exams

Qualifying exams of the host department will NOT be required of the Applied Physics students.

However, for the students' own benefit we strongly advise that they enroll in any required seminar courses and classes with the final decision being left up to the students and their advisors.

4. Timelines and Procedures, Candidacy and Defense

4.1 M.S./Ph.D. Timelines and Procedures

Barring a written exemption from the Graduate Committee, the M.S. must be completed within 3 years of entering the M.S./Ph.D. program, the Ph.D. from B.S. within 6 years, and the Ph.D. from previous M.S. within 4 years. The program does NOT offer a stand-alone thesis Master of Science degree; students admitted to our Ph.D. program with a bachelor's degree are required to earn the M.S. within the program before proceeding to the Ph.D.

NOTE: approved previous M.S. degrees will be evaluated on a case-by-case basis by the APCAC. (See section 3.1 for more information.)

4.2 Petitioning for Candidacy

Candidacy marks a midpoint in the course of graduate education. Achieving candidacy for the PhD/DMA signals that a graduate student has: (a) completed required course work, (b) demonstrated the ability for clear oral and written communication, and (c) shown the ability to carry on scholarly work in his/her subject area.

Master's students must be approved for candidacy before the beginning of their fifth (5th) semester of enrollment at Rice; PhD students must be approved for candidacy before the beginning of their ninth (9th) semester of enrollment. Students who are approaching or who have passed their deadline to candidacy must submit an extension of candidacy request to the [Office of Graduate and Postdoctoral Studies](#). Students who exceed their time boundaries without an approved extension request will be charged a fee of \$125 for reinstatement to good standing.

When candidacy is approved, a thesis committee consisting of at least three tenured or tenure-track faculty or research fellows is appointed. At least two of those members should have an appointment at Rice University.

The Chair of the thesis committee is either the advisor or a faculty member whose primary affiliation is in the host department of the student, and affiliated with the program. The second member of the committee is affiliated with the program. The third committee member's primary departmental affiliation is outside the student's host department. Thesis committee make-up is approved by the head of the program. See the [General Announcements](#) for the formal structure of the thesis committee.

M.S. Candidacy and Defense

When a student has completed the requisite hours (33 from within the Ph.D. course plan), has established a committee, and has performed research, the [Petition for Approval of M.S. Candidacy form](#) is submitted to the Graduate Program Administrator along with a current transcript plan by no

later than the end of the 4th semester (second year). If the end of the second year falls during May, the student has until August 15 to complete the petition. The administrator will provide the statement of applicable department requirements and the student's checklist to candidacy. The form requires the Department Chair's signature and approval by the Office of Graduate and Postdoctoral Studies (GPS).

For guidelines on writing the thesis, visit the following websites for information.

- [Thesis Template Documents](#)
- [Thesis Format Guidelines](#)
- [Frequently Asked Questions](#)

When the student is ready to defend, the student then receives an initialed Approval of Candidacy form, which is signed by members of the student's committee upon passing the M.S. defense. One week prior to defending, the student must submit the following information to the Office of GPS, via the [Rice Events Calendar](#): defense date, time, location, title and abstract, as well as the names, titles and departments of committee members.

The Approval of Candidacy form is copied to the student's file and submitted to GPS. The student has six months to submit his/her signed thesis to GPS, at which time the student becomes a Master's Degree Candidate. Students must satisfactorily complete all required coursework prior to submitting a final thesis. Degrees will not be awarded until all coursework requirements are completed. Additionally, if a student plans to defend and submit a thesis for the next degree conferral, students must file their applications for approval of Ph.D. and M.A./M.S. candidacy in the Office of Graduate and Postdoctoral Studies by the end of October for December degree conferral and by the end of February for May degree conferral.

For full information, visit <http://graduate.rice.edu/thesis/>.

Ph.D. Candidacy and Defense

In order to petition for Ph.D. degree candidacy, a student must have completed 90 semester hours of advanced studies as approved by the program and achieved at least a 3.0(B) average overall, and earned a Master of Science degree from Rice University, or have an equivalent Master of Science degree, as decided by the APCAC. The student must also have completed at least three semesters of grading requirements for the host department and have written approval from the student's advisor to petition.

The Petition for Approval of Ph.D. Candidacy form is then submitted to the Graduate Program Administrator along with a current transcript before the start of the 9th semester (fifth year). The administrator will provide the statement of applicable department requirements and the student's checklist to candidacy. The Department Chair's signature is required on the petition, which is then submitted to the Office of Graduate and Postdoctoral Studies (GPS) for approval.

For guidelines on writing the thesis, visit the following websites for information.

- [Thesis Template Documents](#)
- [Thesis Format Guidelines](#)
- [Frequently Asked Questions](#)

When the student is ready to defend, the student then receives an initialed Approval of Candidacy form that is signed by the student's committee members upon passing the Ph.D. defense. Two weeks prior to defending, the student must submit the following information to the Office of GPS and the [Rice Events Calendar](#): defense date, time, location, title and abstract, as well as the names, titles and departments of committee members.

The Approval of Candidacy form is copied to the student's file and submitted to the Office of GPS. The student has 6 months to submit a signed thesis to the Office of GPS, at which time the student becomes a Doctoral Degree Candidate.

Additionally, if a student plans to defend and submit a thesis for the next degree conferral, students must file their applications for approval of Ph.D. and M.A./M.S. candidacy in the Office of Graduate and Postdoctoral Studies by the end of October for December degree conferral and before the end of February for May degree conferral.

For full information, visit <http://graduate.rice.edu/thesis/>.

4.3 Degree Candidate Status

Degree Candidate Status indicates the student has completed all requirements for the degree and all that remains is degree conferral in January or May.

Very Important Deadlines

Fall 2014:

Friday, September 5, 2014 - Last day to complete late registration

Friday, October 31, 2014 - Last day to file the following in the Office of Graduate and Postdoctoral Studies for a December 2014 degree conferral:

- Thesis master's candidacy petitions
- Ph.D. candidacy petitions

Friday, October 31, 2014 – Last day to file an application for December 2014 degree conferral with the Office of the Registrar

Friday, November 21, 2014 - Last day to register for Spring 2015 by 5:00 PM without a Late Registration Fee

Noon, Friday, December 5, 2014 - Deadline for submitting theses to Office of Graduate and Postdoctoral Studies for a mid-year conferral of Degree

5. Financial Support

Students accepted by the Applied Physics program receive a stipend from the Rice Quantum Institute for the first 9 months, along with a tuition grant. Compensation is calculated and paid semi-monthly from August 16 to December 31 and from January 1 to May 15.

Decided no later than April 1 and starting on May 15 at the end of their first year, and continuing throughout subsequent years, APP students will select a faculty advisor and affiliate with that research group, who is then responsible for funding of the student's stipend and research expenses. After affiliating with a research group, stipend decisions are determined by the faculty member and/or the host department. Students are responsible for discussing salary issues with their respective advisors before officially affiliating with the research group. Many Ph.D. students obtain [fellowships or grants](#) in addition to that which is provided by Rice.

Summer Support - Students should discuss their summer plans well in advance with their advisors. In order to be paid for the summer by Rice, students must register for at least 6 hours of APPL 800. Students planning a summer internship off-campus, with advisor's approval, must inform the Graduate Program Administrator by April 15 in order to complete the financial arrangements required.

Details for international student internships with regard to Optional Practical Training (OPT) and Curricular Practical Training (CPT) area located at: <http://oiss.rice.edu/>.

Please note that ALL vacation requests must be pre-approved by your advisor. If your day-to-day advisor works outside of Rice University, you must also notify the program administrator to ensure that all Rice requirements and guidelines are met.

6. Graduate Student Associations

[The Graduate Student Association \(GSA\)](#) comprises degree seeking graduate students at Rice University. The GSA mission is to enrich the graduate experience and to represent, support, and promote graduate student interests and values. An integral and essential part of the Rice community, the GSA provides programs and services in aiding in recruitment and retention of graduate students, represents graduate student interests to the University administration, and builds a strong sense of community both on and off campus.

Each department on campus has its own GSA, and although APP is not its own department, it has a non-voting branch. The Applied Physics Graduate Student Association (APGSA) was founded in 2011 to represent the interests of Applied Physics students at Rice. The primary

functions and goals of the APGSA are to promote professional growth of graduate students, to serve as a representative in voicing the concerns of its members, and to promote professional and personal relationships amongst graduate students, faculty, and the community. Contact the APP administrator for APGSA details.

7. General Information

7.1 Campus Mail Service

All mail delivered to you using a Rice campus address should include MS-378, the mail stop for Applied Physics. The location of your campus mailbox will be dependent upon your host department.

Host Department	Mailbox Location
Physics & Astronomy	2 nd Floor, Brockman Hall
Electrical & Computer Engineering	3 rd Floor, Brockman Hall
	2 nd Floor, Section "B", Abercrombie Hall
Bioengineering	BioScience Research Collaborative (BRC)

7.2 Computing

All new students are assigned a Rice Net ID username and password, which gives them access to Rice email and other resources; you can manage your account at <https://mynetid.rice.edu/>. See the Rice IT web pages at <http://it.rice.edu> for more information about computing resources.

Many research groups maintain their own specialized computing facilities. They will become available to the student after affiliating with the research group.

7.3 Study Areas, Building Access, Office Space, Telephone Service

Specific information on study areas, building access, telephone service will be determined by your host department. Check with the host department program administrator or coordinator regarding convenient study areas, as well as getting after-hours access to the building, office space, and telephone service.

7.4 Purchasing and Expenditures

After affiliation with a research group, you may be asked to make purchases or incur other expenses on behalf of your research project. University accountants are very stringent in their interpretation of federal, state, local, and university rules that control such expenditures. Please

take careful note of those policies and consult with a staff member before incurring any expense. Under no circumstances are personal items to be charged to any university or research account.

7.5 Procurement

Procurement regulations change frequently. You are advised to consult the purchasing coordinator in your host department before attempting to make any purchases for their specific department guidelines.

7.6 Office Supplies

Office supplies purchased by the department or research grants may not be used for any personal purpose, including course work. All costs of thesis preparation, defense and submission are the responsibility of the candidate. This specifically includes paper, transparencies and printing or copying costs for drafts, defense, and library versions.

7.7 Copying Services

Check with your host department for the location and usage of copiers available for research and departmental use as needed. You may be given a charge code for the appropriate machine.

Note that government funds cannot be used to prepare an application for a government grant and that personal use of copies is not allowed.

There is a large-format (36" wide) color printer located in Geology. Department staff can provide access on how to access this unit. Large format printing is also available through IT (in the MUDD building) at lower cost.

7.8 Mailing and Shipping

All items to be mailed or shipped must be routed through the main department office. Department staff will help you arrange an appropriate carrier and payment.

7.9 Travel

Student travel must be authorized by the principal investigator of the project to which the travel will be charged. The host department may be able to provide supplemental funds for students presenting papers at meetings, but only for one trip per year. Contact the host department administrator or coordinator to request assistance with travel and for rules and regulations regarding travel.

8. Graduate and Postdoctoral Studies Office (GPS)

8.1 Guidelines for Dismissals, Petitions, Appeals, Grievances, and Problem Resolution

These goals of these guidelines are to obtain compliance with Rice's policies while striving to uphold standards and raise the quality of graduate programs, as well as to provide graduate students with an environment that has high standards, clear assessments of their achievements, and fair and transparent procedures for handling cases of inadequate academic progress. See <http://graduate.rice.edu/student/dismissal.aspx> for details.

8.2 Leaves or Withdrawals

[Leaves or withdrawals](#) include short-term medical and parental release, leaves of absence, medical and non-medical withdrawal, and involuntary withdrawal. Readmission and non-enrollment restrictions are also included.

8.3 Funding and Stipends

Most graduate students are provided with stipends of one kind or another for the duration of their graduate study at Rice, and many departments offer multi-year financial assistance to students who are making normal progress towards a graduate degree. For more information, visit <http://graduate.rice.edu/funding>.

Please note that ALL vacation requests must be pre-approved by your advisor. If your day-to-day advisor works outside of Rice University, you must also notify the program administrator to ensure that all Rice requirements and guidelines are met.

8.4 Time Boundaries

In addition to the student's individualized time boundaries in Esther, general time boundaries can be found on the GPS website at: <http://graduate.rice.edu/timeboundaries/>

8.5 Thesis Information

Please read the information at <http://graduate.rice.edu/thesis> for achieving candidacy, defending and submitting your thesis.

8.6 Graduate Form Library

The [Graduate Form Library](#) contains a list of up-to-date forms for graduate students including:

- Candidacy Petitions
- Requests for Extension of Time to Candidacy
- Defense Announcements
- Requests for Extension of Time to Defend
- Thesis Submission Forms
- Degree Conferral Forms
- Commencement

8.7 Guidelines for Good Practices in Graduate Education

High-quality graduate education depends upon professional and ethical conduct by all participants. Although Rice University is composed of many distinct disciplines and programs, we, its faculty and students, nevertheless form a single scholarly community. As such we have communal responsibilities for upholding academic standards and sustaining a creative, collegial environment. See <http://graduate.rice.edu/student/goodpractices.aspx> for more information.

8.8 GradNews

GradNews brings greater visibility to the achievements of graduate students and graduate programs at Rice. Along with feature articles, each issue brings you the latest news about GSA activities, graduate student publications and presentations, important deadlines, and on-going campus-wide activities.

As of Fall 2012, GradNews submissions are collected via <http://scholarship.rice.edu/>. Visit <http://graduate.rice.edu/GradNews/> for Fall 2011 and prior issues.

9. Office of the Registrar (OTR)

Fall 2014 Academic Calendar - <http://registrar.rice.edu/content.aspx?id=748>

2014 Course Schedule - <http://courses.rice.edu/admweb/swkscat.main>

Forms for Current and Graduate Students - http://www.registrar.rice.edu/online_forms/

10. General Announcements (GA)

2014-2015 Rice University General Announcements - http://ga.rice.edu/GR_students/

The GA includes information about academic opportunities, academic policies and procedures, student services and organizations, student rights and responsibilities and more.

11. Office of International Students and Scholars (OISS)

International Students - <http://oiss.rice.edu/student>

Includes the following:

- Obtaining I-20 for F-1 visa
- Short-term Visiting Research Students
- Pre-Arrival Information
- Orientation
- Maintaining Status
- Academic Resources
- Employment
- Students on OPT
- Travel

12. Student Health Insurance and Services

Health Insurance

Rice University requires all students to have health insurance coverage. Therefore, students may enroll in the Rice Student Health Insurance Plan by completing a Health Insurance Application or request a Waiver of insurance if comparable coverage is in place with another insurance provider. Visit <http://studenthealthinsurance.rice.edu/> for more information.

Student Health Services

The Rice Student Health Services provides preventive and outpatient clinical care for the students of Rice University. Student Health is located on-campus and is dedicated to meeting the unique needs of undergraduate and graduate students, with an emphasis on prevention. Their website is <http://www.rice.edu/health/>.

Students may not register for classes until the [Health Data Form](#) has been properly completed and submitted to Student Health Services.

The Rice Wellness Center

The [Rice Wellness Center](#) website offers a variety of resources to help you navigate your well-being journey, from topics on common student concerns, to opportunities for more involvement in wellness, and more. It also includes information on the [Rice Counseling Center](#).

APPENDIX A

Some Suggested Specialization Curricula within the Applied Physics Program

Please note that the below courses are not a full list of possible electives for each specialization area.

Applied Biological and Soft Matter Physics

Suggested elective courses:

BIOE 584	Lasers in Medicine and Bioengineering
BIOE 589	Computational Molecular Biophysics
BIOE/PHYS 610	Methods of Molecular Simulation
BIOE 684	Advanced Biophotonics
BIOE 551	Molecular Biophysics
BIOE 552	Molecular Biophysics II
CHBE 560	Colloidal and Interfacial Phenomena
MSCI 555	Materials in Nature and Biometric Strategies
MSCI/CHBE/CHEM 597	Polymer Synthesis, Soft Materials & Nanocomposites
PHYS 551	Biological Particles
PHYS 552	Molecular Biophysics

Applied Mathematical and Computational Physics

Suggested elective courses:

BIOE/PHYS 610	Methods of Molecular Simulation
CAAM 415	Theoretical Neuroscience I: Biophysical Modeling of Cells and Circuits
CAAM 436	Partial Differential Equations of Mathematical Physics
CHBE 615	Applications of Molecular Simulations and Statistical Mechanics
CHEM 531	Advanced Quantum Chemistry
ELEC 481	Computational Neuroscience and Neural Engineering
MECH 520	Nonlinear Finite Element Analysis
MSCI 533	Computational Materials Modeling
PHYS 516	Mathematical Models
PHYS 517	Computational Methods
PHYS/ELEC 605	Computational Electrodynamics and Nanophotonics

Applied Materials Physics

Suggested elective courses:

CHBE 630	Chemical Engineering of Nanostructured Materials
ELEC 462	Optoelectronic Devices
ELEC 573	Optical Spectroscopy of Nanomaterials
MSCI 523	Properties, Synthesis, and Design of Composite Materials
MSCI 535	Crystallography and Diffraction

MSCI 623	Analytical Spectroscopies: Tools in Materials Science
MSCI 634	Thermodynamics of Alloys
MSCI 650	Nanomaterials and Nanomechanics
PHYS 663	Condensed Matter Theory: Applications
PHYS 539	Characterization and Fabrication at the Nanoscale
PHYS 567	Quantum Materials

Applied Chemical Physics

Suggested elective courses:

BIOE/PHYS 610	Methods of Molecular Simulation
CHEM 495	Transition Metal Chemistry
CHEM 531	Quantum Mechanics II/Quantum Chemistry
CHEM 533	Nanostructure & Nanotechnology
CHEM 547	Supramolecular Chemistry
CHEM 630	Molecular Spectroscopy and Group Theory
CHBE 560	Colloidal and Interfacial Phenomena
CHBE 590	Kinetics, Catalysis and Reaction Engineering
CHBE 615	Applications of Molecular Simulations and Statistical Mechanics
CHBE 630	Chemical Engineering of Nanostructured Materials
PHYS 539	Characterization and Fabrication at the Nanoscale

Applied Optics & Photonics

Suggested elective courses:

BIOE 587	Optical Imaging and Nanobiophotonics
BIOE 684	Advanced Biophotonics
ELEC 462	Optoelectronic Devices
ELEC 463	Lasers and Photonics
ELEC 560	Integrated and Fiber Optics
ELEC 568	Laser Spectroscopy
ELEC/PHYS 569	Ultrafast Optical Phenomena
ELEC 571	Imaging at the Nanoscale
ELEC 573	Optical Spectroscopy of Nanomaterials
ELEC 603	Topics in Micro- and Nano-Photonics
PHYS 571	Modern Atomic Physics and Quantum Optics

Appendix B: Procedures for Lab Accidents

Graduate Students classified as a Fellow, Teaching Assistant (TA) and/or Research Assistant (RA) injured in the lab at Rice University are covered under Worker's compensation. Rice Student Health Center does not provide medical services for workers compensation care. Therefore students injured in the lab **should not** go Rice Health Services. The following protocol should be used for all lab injuries.

Emergency

Call Rice University Police Department at 713-348-6000 (Do not call 911)

- RUPD will dispatch officers to the scene and Rice EMS if needed
- In case Houston Fire Department trucks or ambulances are needed, RUPD will meet them at the entrance gates and guide vehicles to the location
- Be sure to tell the RUPD dispatcher of your location, and clearly describe the incident

If the incident involves chemicals, biological material, or radioactive materials your supervisor or someone in the laboratory should contact Rice Environmental Health and Safety at 713-348-4444

- When injury or illness involves a chemical, Safety Data Sheet (SDS) should accompany the victim to the hospital.
- A First Report of Injury Form must be filed with the Director of Risk Management, VP for Administration (MS-670)
- An Accident/Incident Report must be submitted to your Department head and Environmental Health and Safety. The form is available on the Environmental Safety website at <http://safety.rice.edu/>

Administer First Aid, if necessary

Evacuate the area, if necessary.

Non-Emergency

Minor medical injuries/illness occurring in the workplace should be reported immediately to the injured party's supervisor. The supervisor should fill out a First Report of Injury Form (available from Risk Management <http://riskmanagement.rice.edu/workerscomp.cfmt> or Environmental Health and Safety <http://safety.rice.edu/>). Submit this form to either Renee Block at rab@rice.edu or Ana Robledo at arobledo@rice.edu as soon as possible. You can also fax the report to 713-348-4285.

If non-emergency medical attention is needed, the student should seek treatment at NOVA Clinic (workers compensation care) located 9563 Main Street. Contact Risk Management for an appointment. If transportation is not available, a request can be submitted to NOVA to provide transport.