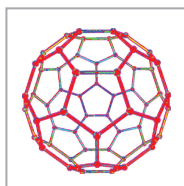
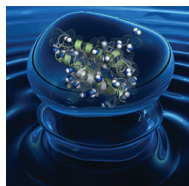
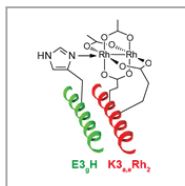
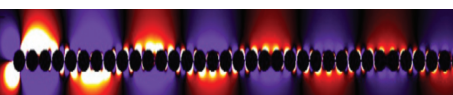
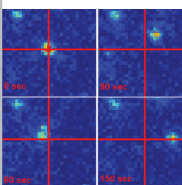
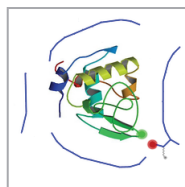
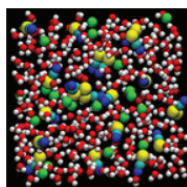
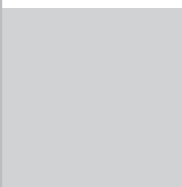
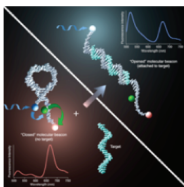
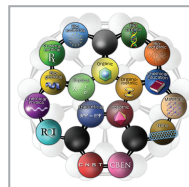
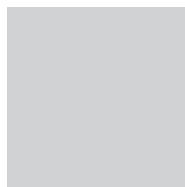
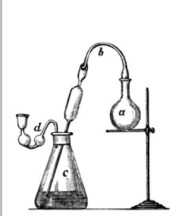
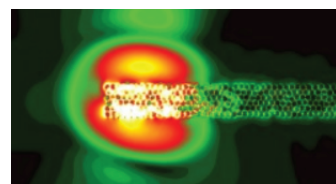
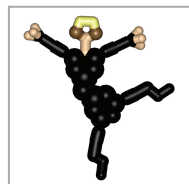
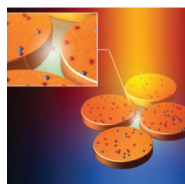
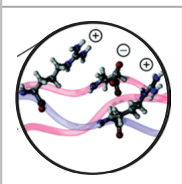


2021 - 2022



DEPARTMENT OF CHEMISTRY

Graduate Program Handbook



Graduate Student Handbook Table of Contents

2021 - 2022

(Updated: July 2021)

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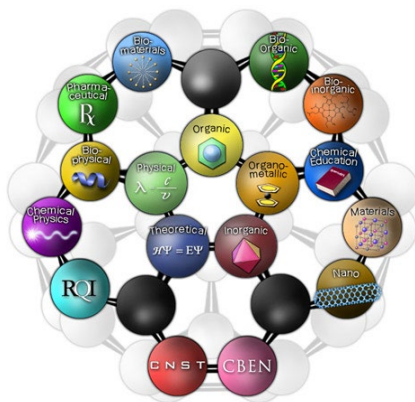
Department of Chemistry

I. OVERVIEW

Welcome to the Rice University Department of Chemistry! The department encompasses those at Rice who investigate the composition, properties, structure, reactivity and mechanisms of transformations of matter. Among us are theorists and experimentalists, organic chemists and inorganic chemists, physical chemists and biological chemists, scientists and engineers. Rice is a terrific place to do research in Chemistry. The department has developed two Nobel laureates and many members of the National Academy of Sciences.

For decades, Rice culture has promoted interdisciplinary research. Most Rice Chemistry professors have additional appointments elsewhere, including four of the five science departments and four of the eight engineering departments on campus. We have particularly strong programs in nanoscale science, theoretical Chemistry, inorganic materials, experimental physical Chemistry, biological Chemistry, supramolecular Chemistry, biophysics and environmental Chemistry. Rice University is a member of the Texas Medical Center, which is the largest in the world, and the Department of Chemistry is at the center of important breakthroughs in nanomedicine.

Our graduate program is sharply focused on promoting the highest level of achievement for each Rice doctoral student. The program is highly selective, admitting only about 25 graduate students a year. These small numbers ensure that Rice graduate students have exceptional access to faculty time, instrumentation and other resources. As a consequence, Chemistry graduate students at Rice develop unusually strong publication records. To ensure that financial constraints are not an obstacle, we waive the application fee for domestic students who have a GPA of 3.7-or-above, and provide a generous stipend and full-tuition waiver for those students who enter our doctoral program.



Some Wisdom on How to Be a Good Researcher

- You are a junior research colleague, not a lab assistant or technical support. Throughout your time at Rice, you are learning how to conduct research, not just how to perform experiments or calculations.
- Aim to become a creative, independent researcher, and strive to perform novel, creative research in the process.
- Think critically: always question yourself, your advisor, your colleagues, and the literature.
- Read the literature: first, capture the essence of articles, not the details; then, go back to the most relevant articles and look for details where appropriate. The amount of the scientific literature on all subjects in Chemistry is huge, and you have to be able to separate the important things from the less relevant.
- Set long-term research goals: what do you want to achieve? Why is it important? What will you and others learn from your research?
- Set short-term objectives accordingly. Mountains are climbed one step at the time. How can you break the long-term goals into shorter-term objectives? How can you achieve the first few objectives? If you can't see a clear path, can you break down your objectives further?
- Don't take shortcuts. Often, there is a right way and an easy way to solve a problem: they rarely coincide. Choose the right way over the easy way. Build each step of your research on sound foundations.
- Think creatively and not only when you're in the lab. Think about your problem while you shower, while you cook, while you drive, before going to sleep. If you're too tired to think creatively, take a break with your friends or family - then get back at your problem!
- Work hard and persistently: a good Ph.D. dissertation requires four to five or even more years of dedicated hard work.
- You, your advisor, and your colleagues are going into uncharted territory; thus, none of you can know where the dead ends are. Making mistakes and meeting dead ends is normal. Overcome frustration, learn from mistakes, and improve! Keep trying new things every time!
- Once you've thought hard about a problem, challenge your thinking with your colleagues, advisor, and other professors. Explain to them what you're trying to do and how, in both formal and informal settings. Don't be afraid to look stupid: the only people who have stupid ideas are those who have no ideas! Listen critically to your colleagues' replies for any useful advice. Can they point you towards useful work in other areas you have overlooked? Do they know of methods, materials, theories, etc., that you can bring to support your problem?
- Set high standards for yourself first and then for your collaborators.
- Do not be narrow-minded! Do not concentrate only on your specific area of research. Try to learn as many different scientific topics as possible. Frequently, new things are discovered on the border between different fields and subjects.

Rice University
Department of Chemistry

II. ADMINISTRATIVE

A. Administrative Staff

Chemistry graduate students are welcome to ask any of our staff for assistance at any time.

NAME	TITLE	PHONE EXT.	LOCATION	EMAIL (@rice.edu)
Vicky Armstrong	<i>Executive Administrator</i>	x2895	HBH 05	vstrong
Nancy Adler	<i>Academic Program Administrator</i>	x2906	SS 111	nancyneil
Carlos Cabello	<i>Chemistry Store Manager</i>	x3255	SS 113	ccabello
Javier Chavez	<i>Storekeeper II</i>	x3257	SS 101	jjchavez
Susan Cudnik	<i>Storekeeper I</i>	x3275	SS 113	scudnik
Ruxin Feng	<i>Teaching Stockroom Manager</i>	x3488	DBH 278	ruxin.feng
Corina Knowlton	<i>Program Administrator</i>	X2653	DBH 341	cknowlton
Pam On	<i>Graduate Program Administrator</i>	x5820 (cell 832-629-6371)	SS 111	pon
Pedro R. Prado	<i>Lead Financial Administrator</i>	x3868	SS 111	prprado
Abby Vacek	<i>Facilities/Purchasing Administrator</i>	x5402	SS 111	akv1
Patricia Villanueva	<i>Seminar & Event Coordinator</i>	x4082	SS 111	pv9
Anita Walker	<i>Undergraduate & Classroom Coordinator</i>	x4027	DBH 243	aawalker
Selena Zermeno	<i>Department Coordinator</i>	x3277	SS 111	bar4

B. Graduate Stipend

Individuals paid on a semimonthly schedule receive a consistent amount of pay twice each month. Graduate student payroll (GR) direct deposits are issued on the 15th day of the month and the last day of the month, or the previous business day if the pay date falls on a holiday or weekend. Each pay week in the semimonthly pay period runs from 12:01 a.m. Sunday until 12:00 midnight the following Saturday. If the student has any questions regarding the student's stipend, please contact the Graduate Program Administrator, Pam On (pon@rice.edu).

Rice University
Department of Chemistry

C. Mail & Packages

Graduate Student mailboxes can be found in SS 111 and BRC near the freight elevator on the 1st floor. Please see Pam On (pon@rice.edu) if the student does not have a mailbox. Students who are assigned to labs in the BRC can contact Camy Noelck for mail-related questions: 713-348-8415/camy@rice.edu. FedEx and UPS Packages are received at the Space Science receiving dock, SS 101.

D. ESTHER (Employee and Student Tools, Help, and Electronic Resources)

ESTHER is the Rice University web application for students, faculty, and staff. Students will use this application to register for classes, retrieve data such as grades, and access account information.

For information about how to use ESTHER, please visit the following site: http://registrar.rice.edu/students/ESTHER_FAQs/.

Resources in ESTHER:

- ✓ Update the student's contact information
- ✓ Register
- ✓ Add and drop courses
- ✓ View the student's course schedule
- ✓ Access the student's final grades
- ✓ View the student's unofficial transcript
- ✓ Obtain enrollment verifications
- ✓ Print the student's degree application
- ✓ View course & instructor evaluation comments for previous semesters
- ✓ Identify holds on the student's account
- ✓ View financial aid information
- ✓ View the student's employment information, such as the student's past pay stubs (if applicable)
- ✓ Review charges and payments
- ✓ Pay the student's account online
- ✓ Changes to forms (W4 & direct deposit information)

E. Student Health Insurance

Student Health Insurance: Rice University requires all degree-seeking students to have health insurance. Students electing to enroll in the Rice Student Health Plan may opt to be billed annually or semi-annually. Contact the Cashier's Office for payment options (713-348-4946). The student must complete an insurance waiver form to waive the student's enrollment in the Rice Student Health Plan.

Health Data Form (HDF): ALL new undergraduate students and graduate students are required to submit a properly completed Health Data Form (HDF) to Rice University Student Health. All students under the age of 30 years, regardless of classification, must provide formal documentation of vaccination against meningococcal disease. (<https://health.rice.edu/>)

F. Title IX

Rice encourages any student who has experienced an incident of sexual, relationship, or other interpersonal violence, harassment or gender discrimination to seek support. There are many options

available both on and off campus for all graduate students, regardless of whether the perpetrator was a fellow student, a staff or faculty member, or someone not affiliated with the university.

Students should be aware when seeking support on campus that most employees are required by Title IX to disclose all incidents of non-consensual interpersonal behaviors to Title IX professionals on campus who can act to support that student and meet their needs. The therapists at the Rice Counseling Center and the doctors at Student Health Services are confidential, meaning that Rice will not be informed about the incident if a student discloses to one of these Rice staff members. Rice prioritizes student privacy and safety, and only shares disclosed information on a need-to-know basis.

If the student is in need of assistance or simply would like to talk to someone, please call **Rice Wellbeing and Counseling Center**, which includes Title IX Support at 3311 / (713) 348-3311.

Policies, including the Sexual Misconduct Policy and Student Code of Conduct, and additional information regarding Title IX can be found at safe.rice.edu.

G. Graduate Studies Forms Library

[The Office of Graduate & Postdoctoral Studies](http://graduate.rice.edu) (GPS) keeps a very useful library of commonly needed forms for everything from leave of absence to candidacy petition to thesis submission. They can be found at <http://graduate.rice.edu/forms/>.

Specific forms include:

Enrollment

- Leave of Absence
- Short Term Medical Release and Parental Leave
- Withdrawal (a statement of withdrawal is also required)

Registration and Transfer Credits

- Registration forms can be found at the Office of the Registrar's website <https://registrar.rice.edu/online-forms>
- Transfer Credit forms are available through the Office of the Registrar

Candidacy

- Candidacy Petition Instructions
- Master's Candidacy Petition
- Doctoral Candidacy Petition
- Request for Extension of Time to Candidacy

Thesis Defense

- Thesis Defense Instructions can be found at <https://graduate.rice.edu/academics/candidacy-defense-thesis-submission>
- Electronic form for announcing the student's defense as required by the General Announcements
- Request for Extension of Time to Defense

Thesis Submission

- Thesis Submission Instructions information can be found at <https://graduate.rice.edu/academics/candidacy-defense-thesis-submission/thesis-submission>
- Master's UMI Agreement Form
- Doctoral UMI Agreement Form

Degree Conferral

- Registrar's Application for Degree (all degree candidates)
- Petition for a Non-thesis Master's
- Petition for an Automatic (or Candidacy) Master's
- Graduation Checklists

Commencement

- Check the <https://graduate.rice.edu/conferral> website (Degree Conferral and Graduation) for information regarding commencement weekend in mid-March prior to **the student's commencement**.

H. Applying for a Social Security Number

Generally, international students are eligible to apply for a social security number (SSN) or an Individual Tax Payer Identification Number (ITIN) after 10 days in the US.

For more information, please visit <https://www.ssa.gov/ssnumber/> or the employment section on OISS website <http://oiss.rice.edu/forms/>

It is advised to obtain a Social Security Number as soon as possible in order to decrease tax withholdings from graduate stipends.

To be eligible, the student must meet *all* the following requirements:

- ✓ Student is on F-1 visa status.
- ✓ Student is currently enrolled full-time.
- ✓ Student has secured employment, i.e. on-campus job, off-campus CPT/OPT, research assistant or teaching assistant in an academic department (*fellowships are **not** considered employment*).
- ✓ Student has been in the United States for more than 10 days.
- ✓ Student has been registered as a full-time student in SEVIS.

If all requirements have been met, please follow these procedures:

- ✓ Request the Graduate Program Administrator, **Pam On** (pon@rice.edu) to complete the "Employer Verification Form", available in the Office of International Students & Scholars or on-line at <http://oiss.rice.edu/forms/>.
- ✓ Take the completed form to OISS to complete the SSA Letter of Support.
- ✓ Once the student receive their Social Security Number, go to Payroll to submit the student's information.

Rice University
Department of Chemistry

I. ChemPals & CGSA

The Chemistry Department, with the assistance of CGSA, invites each new student to be a part of the incoming student mentoring program, ChemPals.

CGSA (Chemistry Graduate Student Association) is a group dedicated to the service of Rice Chemistry graduate students. They act as a liaison between graduate students and the Department as well as plan speakers, monthly happy hours, and outings! Through CGSA, the ChemPals program was developed and implemented. ChemPals are current graduate students in our Chemistry Department who serve as the student's "go to" - particularly during the student's 1st year as the student transition into Grad/Rice life. Each incoming student receives a ChemPal.

The student can contact the CGSA President, **Emily Searles** (es54@rice.edu) or **Pam On** (pon@rice.edu) for additional information.

J. 2021 - 2022 CGSA (Chemistry Graduate Student Association) Board Members

Position	Name	Rice Mail Address
President	Emily Searles	es54@rice.edu
Vice President	Tim Robertson	ter2@rice.edu
Secretary	Austin Moser	am184@rice.edu
Treasurer	Reyner Vargas	reynervg@rice.edu
Inventory	Kevin Wyss	kmw13@rice.edu
GSA Representative	Ying Chen	yc126@rice.edu
Academic Speaker Coordinator	David Solti	ds@rice.edu
Career Speaker Coordinator	Mary Bajomo	Mary.M.Bajomo@rice.edu
Social Chair	Joe Swain Alex Al-Zubeidi	jws15@rice.edu aa106@rice.edu

CGSA Webpage: <https://chemistry.rice.edu/chemistry-graduate-student-association>

III. GENERAL ANNOUNCEMENTS

Rice University publishes its "General Announcements" (GA) each year. These are the official rules of the university and can be found at <http://ga.rice.edu/>. The section titled "Graduate Students" outlines the basic rules and expectations for all graduate students at Rice University. Students must be in agreement with the General Announcements and Code of Conduct found at: <https://sjp.rice.edu/code-of-student-conduct>

While all students are bound by these minimum requirements, many programs, including the Ph.D. in Chemistry, have additional requirements. The second portion of the General Announcements is the section specific to the Department of Chemistry, which can be found at <https://chemistry.rice.edu>. This section details all of the basic requirements for earning a Ph.D. in Chemistry. This section from the most recent general announcements is reproduced below:

In case there is conflicting information, university-wide regulations take precedence over department-wide regulations, which take precedence over research group-wide regulations.

When in doubt, students should seek help first at the department level (Graduate Program Administrator, Co-Chairs of Graduate Studies, Advisor, and/or Department Chair) and then at the Central Administration level (Office of Graduate and Postdoctoral Studies). It is very important and useful to follow this order and not to contact all sources at the same time.

Requirements for MA and Ph.D. in Chemistry

For general requirements, see Graduate Degrees (<https://ga.rice.edu/graduate-students/academic-opportunities/degrees/>). Students who have completed coursework equivalent to that required for a BA or BS in Chemistry may apply for admission to the Ph.D. program. For more information, see Admission to Graduate Study (<https://ga.rice.edu/graduate-students/academic-policies-procedures/admission/>). Students are not normally admitted to study for an MA degree.

IV. REQUIREMENTS FOR THE Ph.D. IN CHEMISTRY

A. Research

The Ph.D. in Chemistry is awarded for original research in chemistry. During the first semester of residence, students select a research advisor from among the members of the faculty. In some cases, students may choose research advisors outside of the department. Approval of the Department Chair is required to formalize these advising relationships. The research advisor will guide the student in the choice of an appropriate research topic and in the detailed training required to complete that project. Students must successfully complete CHEM 800 Graduate Research and CHEM 600 Chemistry Seminars every semester of residence. Candidates earn a Ph.D. after successfully completing at least 90 semester hours of advanced study in Chemistry and related fields, culminating in a thesis that describes an original and significant investigation in Chemistry. The thesis must be satisfactorily defended in a public oral examination. The student must pass the thesis defense before the end of the 16th semester of residency.

B. Coursework

Within the first two years, the student must complete six 3 credit lecture courses at Rice University, or their approved equivalent. In order to satisfy this requirement, each of these courses must satisfy all following criteria:

- The courses must be approved by the Department's Graduate Studies Committee.
- Chemistry graduate courses must be at the 500 level or higher. Certain 300- and 400-level courses in other departments may be acceptable with **prior** approval by the Department's Graduate Studies Committee. A maximum of three lower-level courses in other departments can count towards the six-class requirement, and these do not count towards the University-wide requirement of 90 credits at the 500 level. Courses must be in technical subjects in science or engineering. Courses in teaching, presentation, or management will not be counted toward the six-class requirement.
- Each course must be *passed with a grade of B- or higher*. It is possible to repeat or replace a maximum of 2 courses, upon approval of the Department's Graduate Studies Committee.
- Students who pursue both the B.S. and the Ph.D. at Rice need not duplicate course work for the two degrees. However, teaching as an undergraduate does not substitute for the teaching requirements in the Ph.D. program.

C. Responsible Conduct of Research

Each graduate student must successfully complete the ethics course UNIV 594.

D. Teaching

Each graduate student must participate in teaching (CHEM 700) for the equivalent of **three (3)** semesters. An average of a B- in all 3 courses is required. Assignments are determined by departmental needs.

E. Qualifying Examination

The qualifying exam has written and oral components (the expectations are available in the department office). The committee will be composed of three faculty members, excluding the research advisor. The written document must be submitted to the committee at least one (1) week before the date of the oral examination. The examination must be taken by the last day of class at the end of the student's 4th semester in residency. Any follow-up work required by the committee must be completed by the assigned date, and the exam must be passed by the end of the 6th semester. For detailed information, see "X - Appendix I - Qualifying Examination Guidelines".

F. Advancement to Candidacy for the Ph.D.

After completing the required coursework, teaching, and qualifying examination each student must petition to Advance to Candidacy for the Ph.D. degree. Upon advancement, a student chooses a Thesis Committee with the guidance and approval of their Research Advisor and Department Chair. The Thesis Committee must be a minimum of 3 faculty members:

1. The student's Ph.D. Advisor
2. Two members of the student's Qualifying Exam Committee
3. One faculty member whose primary appointment is in a department outside of Chemistry

Rice University
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(If one of the members of the student's QE Committee is outside the Chemistry Department they will qualify as an outside committee member)

4. Optional - The student and Ph.D. advisor may also include additional faculty as they wish to more thoroughly evaluate the work.

Detailed information regarding choosing a Thesis Committee can be found in the GA at <https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-doctoral-degrees/>

G. Satisfactory Performance

To remain in good standing, a student must:

- Be enrolled full time in a departmental approved research group beginning the second semester, and every semester thereafter.
- Upper Level Lecture Courses *(additional information can be found on page 15)*
 - Maintain an overall GPA of 3.0 (B) or higher in upper level lecture courses
- CHEM 600 - Chemistry Seminars *(additional information can be found on page 16)*
 - Receive a semester grade of 3.0 (B) or higher
 - A grade of 2.67 (B-) or below will place the student on probation
- CHEM 700 - Teaching Practicum *(additional information can be found on page 20)*
 - Receive a semester grade of 3.0 (B) or higher
 - A grade of 2.67 (B-) or below will place the student on probation
- CHEM 800 - Graduate Research *(additional information can be found on page 20)*
Failure to maintain satisfactory grades and sufficient progress in research will result in probation and possible dismissal.
 - Receive a semester grade of 3.0 (B) or higher
 - A grade of 2.67 (B-) or below will place the student on probation

All graduate students are evaluated annually to ensure the student is making appropriate progress towards the degree (see "Section XI - Example of Online Student Evaluation"). The student, advisor, or department may request a meeting between the student and a faculty committee at any time to evaluate progress or to determine a course of action. If progress is unsatisfactory, the committee may recommend a semester of probation, which could result in dismissal from the program if progress remains unsatisfactory in the probationary semester and any following. A second probation at any time will lead to dismissal.

H. Requirements for the M.A. in Chemistry

Although students are not normally admitted to study for an M.A., graduate students may earn the M.A. after obtaining Approval of Candidacy for the Ph.D. The M.A. may also be earned by students who do not achieve Ph.D. candidacy by satisfying all following requirements:

- *Completing the six one-semester courses required for Ph.D. candidacy*

- *Producing a Master's thesis that presents the results of a program of research approved by the Department*
- *Passing a final Master's thesis defense and submitting the thesis to the Office of Graduate and Postdoctoral Studies*
- *Following the university requirements for the thesis Master's degree*
<https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-thesis-masters-degrees/#text>

I. Appeal

Students may petition the Chemistry Graduate Studies Committee for variances on these academic regulations. Contact the student's Graduate Program Administrator (Pam On) to obtain more information on *Academic Petitions*.

V. PROGRAM PROTOCOL

A. Changing Laboratories

After a student has joined a research group, either the student or the advisor might determine that this match is not suitable. Keep in mind that changing laboratories is likely to set the student's timeline back several months. Before taking any actions, students should first discuss the situation with the current PI and explore all possible solutions (e.g., changing the project, receiving more supervision). If the student decides to change labs, approval of the Graduate Studies Committee and Department Chair is required.

A student is required to find a new research advisor to continue in the program if:

- The student has been asked to leave the lab by the student's advisor.
- A student may *elect* to leave the research group based on research area, perceived mismatch in student/advisor personality, or other irreconcilable differences.

Regardless of the reasons the original student/advisor relationship has ended, the case is referred to the Graduate Studies Committee as soon as possible.

1) Advisor's Responsibilities:

If an advisor determines that a student's research performance is not adequate for timely progress toward a Ph.D., the advisor must discuss and establish expectations with the student. In addition, the expectations, reasons, and timeline should be followed-up in writing and given to the student. A minimum timeline of 1-2 months (half a semester) is recommended by the Graduate Studies Committee. The written evaluation must be shared with the student and the Co-Directors of Graduate Studies. If the student fails to meet the expectations set by the deadline, the advisor can ask the student to leave the group after documenting in writing how the student has continued to fail. Two written statements are therefore requested before an advisor can ask a student to leave the group.

In addition, for letter grades of B (not a failing grade) and below (B- and lower triggering an automatic probation) in CHEM 800, a written evaluation by the advisor is required. The evaluation needs to document the reasons for the grade, how performance issues can be addressed moving forward, and a timeline for the expectations expressed, assuming that the student is not asked to leave the group immediately (i.e. it is the first written evaluation documenting lack of performance). This evaluation needs to be sent to the student as well as the Co-Directors of Graduate Studies. Note that this requirement is in addition to the yearly evaluations and it is triggered based on CHEM 800 research grades each semester.

2) Student's Responsibilities:

A student who is considering changing advisors should consult with the Co-Directors of Graduate Studies or the Department Chair. To avoid potential conflicts that may result in a change of labs, students are encouraged to communicate often with their advisors and, in case of any issues, ask for written feedback and a suggested path forward including deadlines.

It is, furthermore, the right of every student to ask for the student's Thesis Committee to meet anytime and to provide feedback in order to resolve potential conflicts. If the Thesis Committee has not been established, the Graduate Studies Committee will assign an appropriate committee.

After changing the lab, it is the student's responsibility to call a meeting of their Thesis Committee to evaluate the success of the transfer and if the student is making reasonable progress in a new group. This must be done at the end of the first semester after transferring to a new group.

3) Graduate Studies Committee's Responsibilities:

- a) Determine whether it is appropriate for a student to try to find a new lab and stay in the program, or if the student should depart from the program.
- b) If the student is approved to look for another lab, the committee must decide how long the student has to find a new advisor and recommend whether it would be appropriate to provide any bridge resources to support the student while the student is not affiliated with a lab. The Department Chair will formally be the student's advisor during any time the student is between labs, and will submit grades and other evaluations of the student.
- c) If the student finds an advisor willing to support them, the committee will determine if the particular student/advisor match has sufficient promise to go forward. The committee may solicit letters from: the student, the previous advisor, and any potential new advisor(s). The committee may also ask the student to make a presentation on items such as: research achievements with the previous advisor, likely research projects with the proposed advisor, reasons for moving, or anything else relevant to the case in question. If the committee does not gain adequate confidence that changing advisors will lead to a positive outcome, the student will not be allowed to continue in the program. Generally speaking, the fewer years that the student has been with the original advisor the more favorable the outlook of the committee will be. Transfers during a student's 1st year are relatively common and usually due to student/advisor mismatch. Transfers after advancement to candidacy can create a major setback in the timeline to graduation.

- c) If a student changes advisors prior to achieving candidacy, the committee, in consultation with the new advisor, will determine a reasonable timeline for the qualifying exam to be completed. In some circumstances it may be more suitable to have the student defend a Master's thesis.
- d) A student who changes advisors after achieving candidacy will join the new lab on research probation (regardless of the student's previous status). This probation must be resolved by a meeting with the Thesis Committee at the end of the first semester in the new lab, in which the student must convince the committee that the transfer has been successful. If a student changes advisors early in graduate school, the qualifying exam will serve as the evaluation for whether the transfer has been successful.

B. Primary Appointment is Outside the Chemistry Department

The Department of Chemistry has many faculty members whose primary appointment is in another Rice department but who have a joint appointment in Chemistry (all these faculty are listed on the Chemistry Department webpage). Students are permitted to choose these faculty members as their primary research advisor without any special permission. Students, however, are not free to choose faculty members without an appointment in Chemistry except under very rare circumstances, and this requires approval from both the Co-Directors of Graduate Studies and the Department Chair.

C. Course Requirements

1) Lecture Courses

To Advance to Candidacy every student must successfully complete a minimum of six (6) lecture course equivalents (3 credit courses count as 1 equivalent; 1.5 credit lecture courses in chemistry count as 1/2 of an equivalent) in upper level chemistry, math, science or engineering courses. The cumulative course grade point average (GPA) for all courses must be 3.0 (B) or greater. However, an individual course grade of 2.33 (C+) or below during a given semester will require the course to be retaken or replaced with another course.

It is also possible to repeat or replace a maximum of 2 courses, upon approval of the Department's Graduate Studies Committee.

Recently the Department of Chemistry has also begun offering half semester courses. Two of these courses, and some select half semester courses from other departments, can be combined to count towards the 6 lecture course requirement.

Some students may come to Rice having already completed advanced work at another institution and may qualify to have one course of the 6 lecture courses requirement waived (see course waivers below). The department allows a great deal of flexibility in what courses fulfill this requirement. However, to qualify, courses in Chemistry must be of the 500 level. In some instances, courses outside the Department of Chemistry at the 300 or 400 level may count toward the 6 lecture courses requirement.

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All 300 or 400 courses taken outside of the Department of Chemistry require the written approval of the Chair of Graduate Studies and the student's Ph.D. advisor to qualify for the 6 lecture courses requirement.

Courses that **do not** qualify towards the six-course requirement include: courses in management, administration, writing and presentations (including thesis preparation), seminars, and teaching courses. This does not mean that the student cannot or should not take these courses, only that they do not count towards the requirement. There are many instances in which it may be important and desirable to take such courses and, with agreement from his or her research advisor, the student is encouraged to take these classes. *If the student have any doubt about whether a particular course counts towards the student's degree or not, please contact one of the Co-Directors of Graduate Studies, John Hutchinson (Jshutch@rice.edu) or Eugene Zubarev (zubarev@rice.edu) for clarification.*

2) CHEM 600 - Chemistry Seminars

Chemistry graduate students are required to register for a section of CHEM 600 each semester (including the semester the thesis is defended). There are 3 components that make up CHEM 600:

- a) **Presentation Seminar** – The student must present a seminar annually according to the following schedules:

FALL MATRICULATE

Year	Fall Semester	Spring Semester
1 st	N/A	Background and Preliminary Results
2 nd	Practice Qualifying Exam	Qualifying Exam
3 rd	N/A	Research Progress
4 th and higher	Research Progress	N/A

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SPRING MATRICULATE

Please notify the faculty member running the student's section to schedule the student to present

Year	Spring Semester	Fall Semester
1 st	N/A	Background and Preliminary Results
2 nd	N/A	Practice QE & Qualifying Exam
3 rd	N/A	Research Progress
4 th and higher	N/A	Research Progress

- b) Student Seminars** - Attend a minimum of **SIX (6)** one-hour student seminar sessions in any CHEM 600 section.

In the Spring semester, due to qualifying exams this required minimum might be adjusted, and the graduate students will be informed if there is a change. CHEM 600 seminars typically have two speakers, but sessions with only one speaker due to scheduling problems also count.

The master schedule is the public "CHEM 600" on the Departmental web page. <https://calendar.google.com/calendar/u/0/embed?src=ricechem600@gmail.com&ctz=America/Chicago> . It is recommended that students subscribe to this calendar. Contact **Anita Walker** (aawalker@rice.edu) if the student are unable to link to the calendar.

Attendance at student seminars will be verified by the speaker rubrics that will be submitted at the conclusion of the seminar. **Failure to submit a rubric(s) will be counted as absent.** The evaluator's name will be removed from the rubric and they will be returned to the speaker as feedback.

Attendance can be tracked here:

<https://docs.google.com/spreadsheets/d/1HDaZAeiHfsDCaIW00HndOb5PsatyKxTEZHMHc2Qs1U/edit#gid=0>

- c) Chemistry Department Seminars** - Attend a minimum of **SIX (6)** Chemistry Department seminars of the student's choice. The seminars that qualify are compiled in the public "CHEM seminars" [Google calendar](#). It is recommended that students

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subscribe to this calendar as well at:

<https://calendar.google.com/calendar/embed?src=ricechemseminars%40gmail.com&ctz=America/Chicago>.

Attendance at Departmental seminars will be verified by the submission of the departmental rubric at the conclusion of the seminar. Failure to submit a rubric will be counted as absent.

d) CHEM 600 Grades

Grades for CHEM 600 are determined by two factors:

1. **Presentation Seminar** (see above schedule)

The quality of the presentation. If the student has presented during a given semester the instructor for the section will assign an initial **CHEM 600 grade**, based on their presentation. Each presentation will be approximately 20 minutes long followed by 5 minutes of questions.

The Qualifying Exam presentation may be 30-45 minutes long followed by questions. Concentrate on the experimental design, theoretical models, and results that the student obtained. The 1st year talk may be largely from literature, but for other talks only ~5 minutes of the talk should be of an introductory nature.

2. **Attendance at Six (6) Student Seminars and Six (6) Department Seminars**

If the student has presented during a given semester, the instructor for the section will assign an initial grade based on their presentation. This initial grade is then used to determine the final grade by the student's attendance at both student seminars and department seminars. For each shortfall of the six (6) mandatory attendances for the student seminars and departmental seminars the student will be penalized two fractional letter grades (e.g., A to B+).

If the student is not required to present during a given semester the student's initial base grade will be an "A".

Substitutions between student and department seminars are not allowed, *unless arranged with the Co-Directors of Graduate Studies before the semester begins.*

Examples:

Presentation Grade	Student Seminars Attendance	Department Seminars Attendance	Penalization for <6 Dept and Student Seminars (# fractional letter grades)	Final CHEM 600 Grade
A	6	6	0	A
A	6	5	2	B+
B+	6	6	0	*B+
A	5	5	4	B-
B+	5	6	2	B-

☆ *If the student fulfills the required attendance, the student's presentation grade will be the student's final CHEM 600 grade.*

A grade of B or higher is necessary to maintain good standing in the department. A grade of B- or below will place the student on probation. **Two** probationary events over the course of the student's Ph.D. may result in the student's expulsion from the program.

Exceptions/Alternative Arrangements to Student and Department Seminars: Expected attendance of student talks and department seminars may need to be prorated for students in certain circumstances (see examples below). Arrangements must be made with the Co-Chairs of Graduate Studies **before** the semester begins. ***No negotiations on grading and attendance proration will be made at the end of the semester.***

Exceptions for **prorated** student and department seminars may include:

- If a student graduates during the semester.
- The student's thesis defense can count for the CHEM 600 talk if it's presented in the semester that the student is scheduled to present. If the student is certain that they will defend in a given semester, they may cancel their regular CHEM 600 talk that semester. However, if the student ends up not defending that semester, the student will have skipped their presentation and will not pass CHEM 600 that semester.
- Research demands at an off-campus location. It is possible that during a particular semester the student will be unable to attend CHEM 600 due to research demands at another location (for example, an internship) or other interruptions of the student's normal schedule.
- If a student has a TA assignment during the Department seminars.

The above are the minimum guidelines for all sections of CHEM 600. Each semester the faculty member running the student's section of CHEM 600 may **add** requirements which the student will be obligated to follow, but will never reduce any of the above requirements. Any additional requirements will be communicated to the student during the first session section.

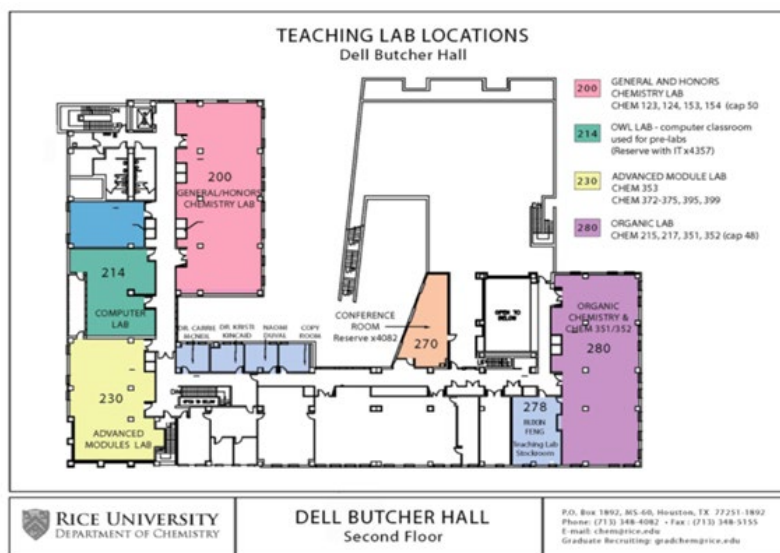
Please be sure to show appropriate respect to the speakers. During CHEM 600 and departmental seminars, laptops may be used only to take notes on the talk. The user should alert the speaker(s) beforehand that they will be using a laptop to take notes and should sit in the first or second row so that the audience can see that the computer is being used for an appropriate purpose. Please alert the Co-Directors of Graduate Studies (Dr. John Hutchinson and Dr. Eugene Zubarev) if the students become aware of any incidents in which this policy is not sufficiently effective. Arriving late is disruptive, and isn't fair to either the speaker who's trying to concentrate, or to the audience who arrived on time. The use of cell phones is also strongly discouraged. **Late arrivals will not be counted toward the student's CHEM 600 attendance requirements.**

3) CHEM 700 - Teaching Practicum

All graduate students are required to complete an equivalent of three teaching units through the CHEM 700 Teaching Practicum course. This course focuses on providing the tools necessary to effectively teach chemical concepts to undergraduate students, primarily in a teaching lab setting.

Outside of lab-specific responsibilities (given by the lab instructor), additional formal teaching training will be used to provide useful tips and techniques that can be employed while teaching, as well as to assist students in oral and written communication. The time commitment for CHEM 700 is 8-10 hours/week over a 16-week period (the week before classes formally begin to the week after the last class, 128-160 hours total).

Because CHEM 700 is always taken for 2 credit hours whether a full or half course is taught, the number of CHEM 700 credit hours is not indicative of the number of teaching units the student has taught. The tally of teaching units is kept by the department office and is distributed annually.



4) CHEM 800 - Graduate Research

For the student's first semester at Rice the student's grade in CHEM 800 will be determined by the student's participation in the faculty introductory talks and the student's three lab summaries (see Section VII-E, "Joining a Lab" for detailed information). The student can still receive an A in CHEM 800 if the student misses one faculty presentation; however, every presentation the student miss after this will reduce the student's grade by two fractions of a letter grade (e.g. A to B+). Additionally the student's grade will be reduced by two fractions for every day the student's lab summaries are late. In short, everyone should receive an "A" in CHEM 800 their first semester if they are diligently researching their options for research.

After the student has joined a lab the student's advisor will assign the student's letter grade based on the student's progress in research for the remainder of the student's time at Rice. A grade of B- or worse will result in the student being placed on a probation. Please note that any grade below an "A" should be concerning and the student is recommended to discuss as soon as possible with the student's advisor why the student received the lower grade and what the student can do to improve it. Two semesters of poor performance (B- or below) will in most cases result in the student being removed from the Ph.D. program.

★ The student must register for CHEM 800 for fall, spring, and summer semesters and remain a full time student to receive a stipend.

D. Course Waivers

Students are normally required to successfully complete 6 lecture courses (or their equivalent) in Chemistry or courses which are pertinent to their thesis objectives (Chemical Engineering, Biochemistry, Physics, etc.). In some cases, students start their Ph.D. program after already completing substantial graduate course work, i.e. a Master's degree from another university. If a student has a Master's degree with all "A" grades in their fall semester, they can automatically have one (1) course waived. If the student qualifies for a course waiver, the student is asked to check in with **Pam On** (pon@rice.edu) at the beginning of the spring semester to establish an official record of the student's 1 course waiver.

E. Annual Evaluation

Students are evaluated each year. First year students are evaluated based on success in joining a laboratory, completion of coursework and TA assignments. This evaluation is carried out by the Graduate Committee and no written document is required from the student or provided to the student unless deficiencies are noted.

Second year students are evaluated based on their performance on their Qualifying Exam by a committee of three faculty members. A written evaluation is provided to the student by the chair of the committee.

Third year and older students are evaluated via a web evaluation form. Instructions for this can be found in section XI.

Sixth year students, in addition to the annual evaluation form, need to have a meeting with their Thesis Committee. It is the student's responsibility to contact the Thesis Committee and arrange a room and meeting time. This meeting needs to occur during the first semester of the academic year. It is also the responsibility of the student to communicate to the Chemistry Graduate Studies Committee the conclusions of this meeting.

F. Time Away

The Weiss School of Natural Sciences Policy regarding Graduate Student Time Off is found on page 41, APPENDIX XII.

Graduate school is a full-time, 12 months per year, occupation. Graduate students are expected to coordinate and obtain approval for time away with their research advisors sufficiently far ahead of time to avoid any conflicts.

G. Probation and Dismissal

Students may be put on probation for a variety of reasons including, but not limited to, the following:

- 1) Overall GPA of lecture courses being below 3.0 (B)
- 2) Earning a grade of B- or less in CHEM 600, 700, or 800
- 3) Failing the Qualifying Exam

Upon being placed on probation, the student will receive an email stating the reason the student was placed on probation which will be copied to the student's research advisor and placed in the student's permanent file. The student's first offense is only a warning. However, if the student is placed on probation a second time, the student will be dismissed from the Chemistry Ph.D. program unless the student's research advisor petitions the department to request the student to be allowed to continue in the program. If the student's advisor makes this request, a full faculty vote is required as to whether to keep the student in the program or not.

★ Please note: If the student does particularly poorly in one semester of lecture courses it might be extremely difficult to improve the student's GPA back to an acceptable 3.0 or better in the following semesters. Even if the student's second semester grades are better than 3.0, if the total GPA is still below 3.0 this would qualify as a probationary event. Because of this, the student is strongly urged to consider the student's course selection and load carefully at the beginning of the semester as well as before the drop deadline to avoid impossible situations. This especially applies to first year graduate students.

H. Conflict Resolution

During the course of the student's Ph.D., it is possible that the student may have a conflict with the student's research advisor over issues concerning the student's rate of progress, time to complete the student's degree, graduation or other scientific issues. While it is best to resolve these problems independently, there are many instances in which it is beneficial to have additional input. At any time a student, their advisor, or a Thesis Committee member can call a meeting to help resolve whatever the conflict might be. In such a meeting the student will make a brief presentation of research progress to their committee consisting of the research advisor plus two additional faculty members. Students are furthermore strongly encouraged to talk to any member of the Graduate Studies Committee for input and best course of action. If a conflict cannot be resolved and it is determined that a change of labs is the only solution, the Graduate Studies Committee will work with the student to find a new advisor, as long as the student is otherwise in good academic standing. Please see section IV on page 13 for additional information.

I. Reduction or Termination of Financial Support

Students who are not making adequate progress in research or who have been placed on probation for other reasons may have their financial support removed and may also be removed from the Chemistry Ph.D. program.

J. Graduate and Postdoctoral Studies Guidelines for Academic Probation, Dismissal, Petitions, and Grievances

Please refer to the Graduate and Postdoctoral Studies website for university guidelines for academic probation and dismissal, petitions and appeals, and grievances and problems located at <https://gps.rice.edu/discipline> .

K. Achievement Awards

The Departmental graduate student **Achievement Awards** are presented to qualified students each year based on merit. Please see the below chart for Chemistry awards and processing.

CHEMISTRY AWARD PROCESS FOR GRADUATES

** The award information is subject to change*

Award Title	Background Info	Semester/Event Awarded	# Awards	Stipend Support	Stipend Support Duration	One-Time Award	Eligibility	Application Deadline	Materials to Submit	Process
Hasselmann Fellowship	The fund was established in 1980 by Marjory Meyer Hasselmann for studies in the field of Chemistry.	Spring Commencement Reception	1-2	Yes	1 Year	\$1,000	3-4 year (current)	March 15th	CV	Student Emails Pam their CV & 1st author papers by deadline date
Norman Hackerman Fellowship	This award is intended for a graduate student in chemistry who demonstrates similar commitment and achievement to that which Dr. Hackerman exemplified during his academic and scientific career.	Spring Commencement Reception	1	Yes	1 Semester	\$2,000	3-4 year (current)	March 15th	CV	Student Emails Pam their CV & 1st author papers by deadline date
Stauffer-Rothrock Scholarship	The Stauffer-Rothrock Scholarship was established in 1968 in memory of E.S. Rothrock. Rothrock was awarded the first distinguished service award for outstanding achievement in the chemical engineering	Spring Commencement Reception	1	Yes	1 Year	\$1,000	3-4 year (current)	March 15th	CV	Student Emails Pam their CV & 1st author papers by deadline date
Margrave Thesis Award	Recognize a grad for an outstanding thesis.	Spring Commencement Reception	1 (two on occasion)	No	N/A	\$1,000	Graduating Students	~April 15 (for commencement)	Thesis, LOR & CV	Faculty Emails Pam Thesis & LOR
Stephen C. Hofmann Award	The Stephen C. Hofmann Award recognizes outstanding early achievement towards the Ph.D. degree and superb performance on the qualifying exam.	Fall/Orientation	Varies	No	N/A	\$500	N/A	N/A	N/A	QE Scores

Award Title	Background Info	Semester/Event Awarded	# Awards	Stipend Support	Stipend Support Duration	One-Time Award	Eligibility	Application Deadline	Materials to Submit	Process
Turner, Richard Memorial Award	Academic excellence in organic chemistry. Dr. Turner, an internationally recognized organic chemist, spent his life at Rice University.	Fall/Orientation	1	No	N/A	\$500	Research in Organic Chem	March 15th	CV	Student Emails Pam their CV & 1st author papers by deadline date
Harry B. Weiser Leadership	Awarded to graduate student(s) who exhibited above and beyond departmental service such as in a leadership role with graduate recruiting	Fall/Orientation	4-5	No	N/A	\$1,000	All Grads	N/A	N/A	Department decision
Harry B. Weiser Teaching	Awarded once a year based on TA performance. The faculty nominate with the support of student evaluations.	Fall/Orientation	5-7	No	N/A	\$500	TAs	June 15th	LOR & Student Evaluations	Course Instructors emails Pam Nominations
Harry B. Weiser Research	Awarded each year to Graduate students recognized for outstanding research	Fall/Orientation	3	No	N/A	\$1,000	3-4 year (current)	March 15th	CV	Student Emails Pam their CV & 1st author papers by deadline date

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VI. TYPICAL TIMELINE FOR A Ph.D. STUDENT

Year 1

The most important objective of the 1st year is to secure placement into a laboratory (typically done near the end of October).

In the first year, most students complete:

- 6 lecture courses (or equivalent) in advanced Chemistry or other math, science or engineering discipline
- 1 or 2 units of teaching
- Give their first CHEM 600 presentation during the second semester

Year 2

The primary objective of the 2nd year is to complete the Qualifying Exam and advance to candidacy.

- Any required lecture courses not completed in Year 1 must be completed before the end of Year 2.
- The 3 units of teaching must be completed by the end of the third year, but most students complete these by the end of Year 2.
- CHEM 600 presentations are made both semesters in the second year. The presentation in the second semester of the second year is the Qualifying Exam. At the end of the second year many students will have published their first paper. All other students should be near the submission of their first paper or should have made major progress towards this goal.

Year 3 and Beyond

With most of the requirements of the Ph.D. behind the student, almost all of the student's energy should now be focused on research towards the student's Ph.D. defense.

While the rate of publication varies from discipline to discipline and from lab to lab, the best way to measure the student's progress towards this goal is by the quality and quantity of publications.

- Graduate students in the third year and higher must continue to participate in CHEM 600 every semester they are enrolled as a student in the Chemistry Ph.D. program.
- The student must give an oral presentation in the spring semester (3rd year) or fall semester (4th year and above). See CHEM 600 guidelines for details.

Graduation

The required time to complete a Ph.D. depends on many variables including: the type of project the student is working on, how hard the student works, how smart the student is and, many times, how lucky the student is. However, most Rice students will graduate with a Ph.D. in 4-6 years with 5 years being the most typical.

The last hurdle the student faces will be to write the student's thesis and publicly defend it in front of a committee of at least three faculty members, one of whom must be the student's Ph.D. advisor and one of whom must be a Rice faculty member who has a primary appointment outside the Department of Chemistry.

More detailed information can be found in the sections below.

VII. FIRST YEAR OF GRADUATE PROGRAM

A. Early Matriculate

Some students may come to Houston early (between May 16 and August 15) to work in a lab over the summer. This is a way to get a head start on picking an advisor during a time when the student does not have all of the distractions of course work and teaching assignments. During this time the student will be paid at the existing stipend rate, which also means that the professor the student works for will be paying the student. In order to do this, the student will need an agreement that the particular faculty member is willing and able to support the student during this time. The Chair of Graduate Studies or Department Chair can help the student find a suitable match if the student asks before coming.

It is important to realize that by working for this faculty member during the summer, neither the student nor the professor is committed to a long-term relationship. The student may find that the science, lab atmosphere, and personality of the professor are as desired in a Ph.D. program. On the other hand the student may find that some aspect of that lab is not what the student had hoped. Similarly, the professor may find that the student is exactly the kind of intelligent, hard-working student that they hope to recruit, or they may not. If it works out for both parties, the student is on their way to choosing a lab. If it doesn't work, the student gained valuable experience and will have full, normal time to select an advisor.

B. Orientation (O-week) and Registering for Courses

The student's first semester at Rice will begin with Orientation Week (or O-week) during which the student will learn the basics about Rice and the Department of Chemistry. The major events of O-week will include presentations by many of the faculty interested in recruiting students this year. This is a good way to make the student's first contact with faculty if the student did not participate in summer research.

Faculty advisors will review the student's background and assist the student in selecting courses. Most students will select three 3-credit advanced Chemistry or other science lecture courses in addition to UNIV 594 (Responsible Conduct of Research), CHEM 600 (1 credit, the *Chemistry Seminars*), and CHEM 800 (variable number of credits, *Graduate Research*).

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The majority of incoming students will also teach their first semester and therefore be enrolled in CHEM 700 (2 credits, the *Teaching Practicum*). There will also be a special information session regarding the student's teaching assignment during orientation.

• **Registering for Courses:**

To be a full-time student and receive a stipend, the student **must** be enrolled in a minimum of 9 credit hours every semester (6 credit hours during summer session). To ensure that students remain full-time even after dropping a class or even two, a student should be enrolled in at least **15** credit hours every semester. A variable number of credit hours of CHEM 800 (*Graduate Research*) should be added such that the total credit hours equal at least 15.

Six example schedules for the student's first semester are shown below:

3 Lectures & No TA			3 Lectures & TA		
CHEM 501*	3	This is the most common schedule for a first semester graduate student.	CHEM 501*	3	This is the second most common schedule for a first semester graduate student.
CHEM 547*	3		CHEM 547*	3	
CHEM 542*	3		CHEM 542*	3	
UNIV 594	1		UNIV 594	1	
CHEM 600	1		CHEM 600	1	
CHEM 800	4		CHEM 700	2	
Total Credits	15		Total Credits	15	
2 Lectures & No TA			2 Lectures & TA		
CHEM 501*	3	Students who feel they may be especially challenged in their 1 st semester or who feel that the offered courses are particularly unsuited to their needs may elect to take only 2 lecture courses.	CHEM 501*	3	Students who feel they may be especially challenged in their 1 st semester or who feel that the offered courses are particularly unsuited to their needs may elect to take only 2 lecture courses.
CHEM 542*	3		CHEM 542*	3	
UNIV 594	1		UNIV 594	1	
CHEM 600	1		CHEM 600	1	
CHEM 800	7		CHEM 700	2	
Total Credits	15		Total Credits	15	
		However , in this case where no TA duties are assigned, the student should be aware that they are leaving a great deal of work for later semesters.			

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4 Lectures & No TA			4 Lectures & TA		
CHEM 501*	3	Students with particularly good preparation coming to Rice may elect to take 4 lecture courses. This option is particularly viable since: <ul style="list-style-type: none"> • <i>The student will have no TA duties</i> • <i>The student's later semesters will be more free for research</i> However , please note that it is far better to earn 3 - A's than it is to earn 4 - B's (or worse). Be prepared to drop one of the student's classes if the workload is too much.	CHEM 501*	3	Students with particularly good preparation coming to Rice may elect to take 4 lecture courses. This is advantageous as the student's later semesters will allow for research. However , please note that it is far better to earn 3 - A's than it is to earn 4 - B's (or worse). Be prepared to drop one of the student's classes if the workload is too much.
CHEM 547*			CHEM 547*	3	
CHEM 442*	3		CHEM 542*	3	
CHEM xxx	3		CHEM 5xx	3	
UNIV 594	3		UNIV 594	1	
CHEM 600	1		CHEM 600	1	
CHEM 800	1		CHEM 700	2	
Total Credits	4		CHEM 800	2	
	18	Total Credits	18		

☆ Note: the 500 level courses shown on this table are arbitrary and utilized for example only.

Registering for Courses (Summer Session & Last Semester)

- The student must also register for CHEM 800 for the summer session to remain a full time student.
- In the student's 5th and later semesters the student's schedule might look like this:

Course	Credits
CHEM 600	1
CHEM 800	14

The changing number of credits of CHEM 800 is indicative of the transition from a mixed emphasis on coursework and research towards total dedication to the student's research.

C. UNIV 594 - Responsible Conduct of Research Requirement

All students are required to register for UNIV 594 "Responsible Conduct of Research" during their first semester as a student. Responsible conduct of research (RCR) is defined as the practice of scientific investigation with integrity. It involves the awareness and application of established professional norms and ethical principles in the performance of all activities related to scientific research.

D. Adding Courses / Dropping Courses

Adding and dropping courses near the beginning of a student's first semester requires the signature of one of the Co-Directors of the Graduate Studies Committee, John Hutchinson (Jshutch@rice.edu) or Eugene

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Zubarev (zubarev@rice.edu). Dropping courses after the drop deadline (typically the 10th week of the semester) is usually **not** permitted.

E. Joining a Lab

The Department is ultimately responsible for each student's education, and faculty members cannot unilaterally admit students into their labs. Students join labs through a three-way agreement with a faculty member and the department. The Chemistry Department's policy is for graduate students to rotate and join labs with Chemistry Core and Joint Faculty members. Adjunct members do not qualify. Please view the [Department of Chemistry's](#) website for detailed information about [Core](#) and [Joint](#) Faculty members.

Students are not committed to any labs during a shopping period that runs from fall matriculation midterm of the fall semester in the middle of November. The lab-joining process is initiated by the student, who should submit by email to **Pam On** (pon@rice.edu) an ordered list of three (3) labs in which they are interested by the end of the shopping period (before midterm of the fall semester). The faculty will be informed of the choices, and a faculty member listed as a student's first choice may then accept that student if the department approves. If necessary, similar processes will place students in their second choice (or in very rare cases, a lower choice lab). Any extra-departmental agreements are meaningless. If a student and faculty member were to make a private agreement to work together and one party then discovers an undesirable trait in the other before the departmental approval, it would be best for everyone to seek other partners. Where a student worked over the summer or had a desk during the shopping period is immaterial to the lab-joining process; neither student nor faculty member have any obligation to continue the relationship. Research during the shopping period is allowed but not encouraged. It is only 7 weeks and students are busy, so it's very unlikely that students will achieve anything substantial. Faculty should not pressure students to do experiments during the shopping period to assure/permit admittance. Students should inform the Co-Chairs if they feel pressure.

It is essential that students learn as much as possible about many labs. To facilitate this process, each student must submit three (3) one-page summaries, each of which describes her/his investigations into one of three different labs. These will be spaced throughout the shopping period (due **September 10, October 1, October 22**) to keep students engaged in the shopping process. Students should cover a paper from the lab, a group meeting, or an ongoing project discussed with the professor or a lab member. By that time the student should also attend at least one group meeting (if this is not logistically possible, meet individually with lab members) and have a personal meeting with the professor. By 5 p.m. of the due date, the document should be emailed to **Pam On** (pon@rice.edu), **Dr. Hutchinson** (Jshutch@rice.edu), **Dr. Zubarev** (zubarev@rice.edu), and the professor whose lab was reviewed (who should alert Drs. Hutchinson and Zubarev if the one page description is not adequate, if the student did not attend a group meeting or an equivalent, or if they did not have a personal discussion with the student). The ownership is on the student. Students who don't use this process to convince the faculty that they have thought carefully about three options by **October 29** will be assigned a lab later in the semester.

To summarize, the student will need to:

- ✓ Write **three (3)** one-page reports on different research groups.

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- ✓ The three documents should be emailed to Jshutch@rice.edu, zubarev@rice.edu, pon@rice.edu, and the professor whose lab was reviewed by 5 p.m. on their respective due dates of September 10, October 1, and October 22.
- ✓ A hard-copy ordered list of three prospective advisors should be submitted to **Pam On**, Space Science 111 building or pon@rice.edu by **4:00 p.m. Friday, October 29**.

Students who applied to the Rice Chemistry Ph.D. program to continue a formal advising relationship may bypass this process and join a lab directly. Examples are:

- 1) A new graduate student who was previously a Rice undergraduate and who has performed undergraduate research can ask to be immediately affiliated with her/his undergraduate research advisor.
- 2) A new graduate student who worked as a visiting researcher *before applying* to the Rice Ph.D. program can also ask to be immediately affiliated with that lab. After this request has been made, the above-described departmental verifications still apply but the student need not complete the three lab investigations. This early request to bypass the normal system must be completed on or before the first lab report is due (September 17).

Students cannot bypass the lab reviews if their sole previous affiliation with a potential advisor is research the summer before matriculation.

If a student is unable to find an advisor at the end of the second semester the student will be placed on probation (For fall matriculates the end of the second semester would be considered the end of the spring semester. For spring matriculates the end of the second semester would be considered the end of the summer semester). If a student is unable to find an advisor by the end of the 3rd semester they will be dismissed from the Chemistry Graduate Program.

VIII. SECOND YEAR OF GRADUATE PROGRAM

A. Advancement to Candidacy

The student's second year in the Rice Ph.D. program has one major goal: Advancement to Candidacy. A student who has Advanced to Candidacy has completed all the requirements for a Ph.D. with the exception of their Ph.D. thesis. As discussed below, a student who has Advanced to Candidacy must still stay in good standing (including participation in CHEM 600 and adequate performance in CHEM 800). In order to Advance to Candidacy, a student must:

- Successfully complete 6 lecture courses (or their equivalent) as described above.
- Successfully complete three teaching units.
- Successfully complete (pass) their qualifying exam.
- Get approval of the Ph.D. advisor who confirms that the student is making adequate progress toward a Ph.D.
- Get departmental approval to continue in the Ph.D. program as confirmed by the signature of the Department Chair.

If the student did not complete their coursework requirements in their first year at Rice, the student must now complete them. Most students will still have one or two semesters of teaching.

B. Qualifying Exam

In addition, the major challenge for a student's second year is the successful completion of their Qualifying Exam. Complete details are available in the *Qualifying Exam Guidelines*, which is revised annually and included as an appendix to this student handbook. In all cases, the student is required to write a proposal which describes:

- The research that the student had completed up until this point in their degree
- The conclusions the student can draw from their work
- The student's proposed work for the remaining Ph.D. (which, on average, is an additional three years of study)

In addition to this written document, the student presents their work in a public seminar where anyone may ask questions. After the question and answer session, the QE Committee will excuse the public and the student's exam will continue in private until the committee is satisfied that they can fully evaluate the student's work. Based on the student's written work, public presentation and ability to answer questions both in public and private, the QE Committee will give the student a numeric score in several categories, and detailed written feedback.

Each student either:

- 1) **Passes** - no further work required
- 2) **Incomplete** - some portion of the exam requires revision which will be detailed by the QE Committee
- 3) **Fails** – the student is required to leave the program unless their Ph.D. Advisor successfully petitions the full department to retake the QE to stay in the PhD program, or pursue a M.A. thesis degree. Requirements for the Master's Thesis degree can be found at <https://chemistry.rice.edu/degree-requirements>

✧ The full and official details of the qualifying exam process are detailed in the *Qualifying Exam Guidelines* document found in Appendix I.

IX. ADVANCEMENT TO CANDIDACY / GRADUATION

A. Ongoing Requirements

After Advancement to Candidacy, a student's last major goal is to complete their Ph.D. thesis. While this is the focus, the student still has other obligations. In particular, all students are required to enroll and participate in CHEM 600 every semester they are a student. Failure to successfully complete the requirements of CHEM 600 (a grade of B- or lower) can lead to probation and/or expulsion from the program. Additionally, the student must make adequate research progress every semester as defined by their grade in CHEM 800. Any grade of B- or below in CHEM 800 results in a student being put on probation. Two semesters of bad performance in CHEM 600 or CHEM 800 typically result in a student being removed from the Ph.D. program.

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The amount of time necessary for this and the actual composition of the thesis vary greatly with four to six years being typical. During this time a student typically publishes multiple peer-reviewed papers, which are critical milestones used to judge progress toward a Ph.D. Although the student's Ph.D. advisor usually has the best view of what qualifies as a sufficient body of work in the student's field when the student are ready to defend the student's Ph.D., the Ph.D. degree is conferred by the department and university.

The quality of the student's work must be of sufficient quality to pass the scrutiny of a Thesis Committee that (minimally) includes 3 faculty members:

1. The student's Ph.D. advisor
2. Two members of the student's Qualifying Exam Committee
3. One faculty member whose primary appointment is in a department outside of Chemistry (*If one of the members of the student's QE Committee is outside the Chemistry Department they will qualify as an outside committee member*)
4. Optional - The student and Ph.D. advisor may also include additional faculty as they wish to more thoroughly evaluate the work.

B. Annual Evaluations

Students, third year and older, will be evaluated annually after being Advanced to Candidacy. These evaluations will serve a dual objective: (1) fulfill university requirements and (2) formalize and improve student-advisor communication channels in terms of progress and expectations. Evaluations will be performed electronically through a web evaluation. A sample of this evaluation form can be seen in **Appendix II**. Take the time to fill this score sheet carefully and entirely. The student's advisor will fill a similar form evaluating the student's performance and the scores of the two forms will be compared. Differences of two points or more between the scores of the student and advisor forms in questions 1-3 will involve further evaluation by the Graduate Studies Committee, which could include calling for a meeting of the student with the Thesis Committee. It is encouraged that the student maintain regular communication with the student's advisor about research and expectations in order to avoid discrepancies in the evaluation, and thus further involvement from the Graduate Studies Committee. It is expected that both students and their advisors will have access to both evaluations.

Completing the evaluation is an annual departmental requirement and failing to complete it on time will have consequences that could include lowering the research grade for the semester, academic probation, and dismissal from the graduate program. The link to access the annual evaluation will be sent to the student by email from the Graduate Program Administrator (**Pam On**), on behalf of the Graduate Studies Committee, by May 1 and needs to be completed by May 31.

Students who have defended their thesis by May of the current year do not need to fill the evaluation form. Students in their 6th year and older need to meet with their Thesis Committee once a year during the first semester of the academic year. It is the responsibility of the student to contact the Thesis Committee and set the meeting, as well as to inform the Graduate Studies Committee of the conclusions of that meeting. Failing to complete this requirement will have consequences that could include lowering the research grade for the semester, academic probation, and dismissal from the graduate program.

C. Thesis Defense

When the student and advisor come to the conclusion that the required work for a Ph.D. is complete or nearly complete, the time comes to write the definitive work. The student should check <https://graduate.rice.edu/academics/candidacy-defense-thesis-submission/last-semester-timeline-graduate-students> for up-to-date deadlines, checklists, and formatting requirements. In particular, examine the "Doctoral Thesis Submission" document and the "Thesis Format" and "Thesis Template Library" documents.

Please update **Pam On** (pon@rice.edu) during this process as Pam can help make sure that the student is aware of all deadlines and administrative issues associated with defending the student's thesis.

When scheduling the student's thesis defense, please keep in mind that arranging a time that is suitable for the student and the three or more faculty members on the student's committee is often difficult. Do not try to schedule this at the last minute! The student will likely not get the date they want and may also unfavorably predispose the student's committee towards the student. In particular, defense dates in February, March and April are very popular as they are the last times the student can defend and still march in that year's graduation. Consequently, these dates are more difficult to reserve than others.

In addition to all the information provided on the above web page, please remember that the student's Thesis Committee must have adequate time to review the student's work. The student must submit to the student's Thesis committee a copy of the student's thesis **a minimum of two (2) weeks** before the student's thesis defense. This should usually be a hard copy. However, it may be in the form of an electronic document if there is an unavoidable reason why providing a hard copy is impossible (for example, due to travel), but this should be arranged and agreed upon by all members of the Thesis Committee ahead of time. If the thesis is not turned in to the Thesis Committee two weeks before the oral presentation, the student's exam will be cancelled and rescheduled for a later date.

In addition, an electronic PDF copy of the student's thesis must be sent to the Chemistry Department Graduate Administrator (**Pam On**) (pon@rice.edu) a minimum of two weeks before the student's thesis defense.

Finally, the student's thesis defense must be advertised on the Rice event web page **a minimum of two (2) weeks** prior to the student's defense. Thesis defense announcements may be submitted through GPS at <http://events.rice.edu/rgs/>.

☆ *The above is not meant to be an official or comprehensive list of all requirements and timelines for the thesis submission and defense. The official and comprehensive documentation of requirements can be found at <https://graduate.rice.edu/academics/candidacy-defense-thesis-submission/thesis-submission>. The student may also contact **Pam On** (pon@rice.edu).*

X. APPENDIX I - Qualifying Exam Guidelines

The purpose of the qualifying examination is to establish the extent to which the student has achieved intellectual independence and has demonstrated the research accomplishments appropriate to become a Ph.D. candidate. The examination consists of (1) a written proposal which summarizes research achievements and describes future goals and (2) a public research seminar immediately followed by a closed oral defense in front of a faculty committee.

The written document must be submitted and defended before the end of the fourth semester of residence. In addition to the written and oral exam, the student must also request a letter of evaluation from their advisor and ensure that it is sent to all the members of the exam committee and Pam On (pon@rice.edu). This letter is due at the same time as the written document.

Criteria

The student is evaluated on their ability to demonstrate:

- ✓ A mastery of relevant background material, recent literature, and chemical concepts relevant to the described work (mastery of chemical literature and mastery of scientific concepts)
- ✓ A clear research plan and understanding of the reasons why the research is being pursued at both a strategic level and day-to-day practical level that is sufficient and realistic for a 5-year Ph.D. (i.e., within the next 3 years)
- ✓ A track record of concrete, scientifically rigorous research achievement
- ✓ The ability to make a clear, concise presentation of scientific information and to verbally answer questions from the committee related to the presented research and to general, fundamental chemical concepts.

Written Document

The written document is a combination of a research summary and research proposal. The ideal examination document should convey to the reader (1) that the student has identified a scientific problem or sub-discipline for study and has become an expert in this field, (2) that a careful research plan, appropriate for a single graduate career, has been developed that will create significant new scientific knowledge, and (3) that significant progress has already been made such that it appears likely that the student will complete the work necessary for the Ph.D. degree in an appropriate time frame.

Deadlines: Regardless of the student's oral presentation date, all students defending in the Spring semester are required to submit their written proposal by **4 PM on Monday, March 7th**. Students defending outside of the Spring semester must turn in their proposal at least one week before the scheduled exam date. The text should be received both in electronic and hardcopy by all members of the exam committee. An electronic copy should also be sent to Pam On at pon@rice.edu. It is the responsibility of the student to make sure the committee has received the document on time. Failure to turn in the written document on time will result in failure of the exam (see below).

In addition to the written and oral exam, the student must also request a letter of evaluation from their advisor and ensure that it is sent to all the members of the QE committee. A copy should also be sent to Pam On (pon@rice.edu).

Length: The entire document, excluding Supporting Information and References, shall be 3500 - 7000 words. Supporting information and references may be of any appropriate length and do not count against the above word total. Documents that violate length restrictions will not be accepted.

Format: The document should be prepared in the *J. Am. Chem. Soc.* Template for Articles, which is accessible at http://pubs.acs.org/page/jacsat/submission/jacsat_templates.html. Note that there is a **word** limit rather than a **page** limit. It's important to develop expertise with templates, but the close spacing and small font makes it difficult to write comments. Please be willing to generate a version double-spaced in 12-point font on request.

Figures: Figures should be incorporated into the text as near as reasonable to the place where they are first mentioned. **IMPORTANT:** Figures must be properly referenced ("taken from ...", "adapted from ...", etc.). Figures not referenced will be assumed to be the sole creative work of the student.

Organization:

- ✓ **Abstract:** Concise (250 word maximum) summary of proposal goals and justifications.
- ✓ **Introduction and Background Literature:** Broadly, what is the student trying to do and why is it important? What is already known about this topic? What researchers are currently leading the field? What are the major problems or gaps in knowledge in this field? What has the student's chosen lab already done in this area?
- ✓ **Specific Aims:** Exactly what is the student trying to do? Each of the 2-5 aims should be described concisely in 1-3 sentences.
- ✓ **Timeline:** Describe the timeline in which the above Aims are expected to be accomplished (can be a graph).
- ✓ **Experimental Strategy:** Specifically, what experiments will be performed to address the Specific Aims? If synthesis is required, are the steps reasonable? What is the mechanism? If an analytical technique is used, how does it work? Can it accomplish what is proposed? Is the instrument available at Rice? Does the order of the experiments make sense? Are there alternative routes to accomplishing the student's goals if the student's primary approach fails?
- ✓ **Research Accomplishments:** Since coming to Rice, what has the student (not the people in the student's lab) accomplished related to this goal? If the student has already published or has a manuscript in review, the student should indicate that here and what the student's specific contribution to that work has been. This section should be written as a logical summary of experiments and their ramifications. Key figures, graphs or images which help summarize this work are useful. However, detailed experimental procedures and data should be included in the Supporting Information section sufficient to prove any claims described here. In some circumstances the student may have done a significant amount of work on a different project that has not worked out or is not related to the current proposal. Because one goal of the qualifying exam is to assess research achievement, it may be appropriate to discuss work on such projects here, describing the concrete results that led to significantly altering research goals.
- ✓ **Expected Outcomes:** Assuming success in the experiments outlined in Experimental Strategy, what will the consequences of the student's work be? What will the student have accomplished?

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- ✓ **References (no word limit):** These should be in a modified J. Am. Chem. Soc. format which includes the title of the article for example (please note that journal names should be properly abbreviated, e.g.: J. Am. Chem. Soc., not Journal of the American Chemical Society):

Bachilo, S. M.; Strano, M. S.; Kittrell, C.; Hauge, R. H.; Smalley, R. E.; Weisman, R. B. "Structure-Assigned Optical Spectra of Single-Walled Carbon Nanotubes" *Science* 2002, 298, 2361-2366.

The student's references should be almost entirely from the primary literature. References to outstanding reviews or textbooks may be appropriate for broad, well known or old concepts. The internet is not typically acceptable. Avoid Wikipedia. **Improper referencing may be construed as plagiarism and result in failure of the qualifying examination and/or expulsion.** The Rice Honor Code, as always, is in effect for this examination.

- ✓ **Supporting Information (no word limit):** This should include detailed JACS-style experimental procedures for all experiments described both in the student's Experimental Strategy and in the student's Research Accomplishments. Any data necessary to prove the results mentioned in Research Accomplishments should be included here. Portions of this section can be taken directly from any manuscripts already written by the student (but still must be properly referenced).

Written documents which do not follow the guidelines described above may be returned for revision before the oral examination takes place or result in failure of the examination (see below).

Oral Defense

The student will present his or her work as a public seminar using a professional-quality presentation. These will be scheduled as part of CHEM 600. The student is responsible for the technical aspects of the presentation (for example the working of the projector and interface with the computer). The presentation should last 25-30 minutes and will be followed by questions from the general audience. Following the public presentation and questioning, the closed portion of the defense will commence with only the members of the student's committee. The examination may include (but is not limited to): clarification of a point or a request to discuss a point in more detail to ascertain whether the student understands in detail the concepts being presented; speculative questions to force the student to consider new ideas or alternative approaches and to think on her/his feet; and questions addressing fundamental chemical concepts relevant to the described work. The student will be scored independently by each committee member on four questions (see below) from 1–5 with a 5 being the best possible score.

Possible Outcomes

The exam committee has the following options after having reviewed the student's written and oral proposal and advisor's letter of recommendation. The decision will typically be made by the committee immediately following the examination, but always within 72 hours.

- 1) **Pass.** If the average score on each of the four questions is 3 or above, and the committee feels that no revisions, corrections or addendums are needed, the student passes. Nothing further is needed from the student.

- 2) **Incomplete.** The student neither passes nor fails the qualifying exam. An incomplete denotes a strong performance exhibiting solid achievement, but with one or more areas in which the student's progress towards the thesis could be facilitated by doing something more. A written revision/addition is probably expected. Additional experimental work may also be requested. *The committee chair will describe in writing exactly what is required of the student and the timeline for its completion.* Please see "Exam Revisions" below.
- 3) **Fail.** The student fails the qualifying exam. This is typically the result of multiple major flaws in scientific reasoning and / or a significant deficiency in research progress. The committee believes that advancement to candidacy is not appropriate in this case, and the student is generally not permitted to retake the exam. The student's research advisor may petition the full department to allow the student to defend a Master's thesis if the advisor believes this is warranted or retake the QE. If the Master's thesis is successfully defended the student may be promoted to Ph.D. candidacy. In any case, the student is placed on probation.

Exam Revisions

Within one week of the oral examination, the QE Committee Chair will prepare a written analysis of the student's exam performance, and will provide a copy of this analysis to the student, their advisor, and the Co-Directors of Chemistry Graduate Studies. If the student scores an incomplete on the examination, this document will clearly indicate what is being asked of the student and provide concrete deadlines for the tasks requested. When corrections or additions to the written document are requested, the student should provide an itemized commentary describing the changes made in response to each point raised by the committee. If the QE Committee has asked for an in person defense of the revision, public or private, any written documents must be turned in one week before the established meeting date. The QE Committee will inform the student if revisions are sufficient within two weeks of receipt of that document. The QE Committee may score the revision as a Pass, Incomplete or Fail. If the student passes, nothing further is needed. If the student earns an incomplete or a fail, the student is placed on probation. Further, if the student is given an incomplete the student's research advisor may choose to allow the student to defend a Master's thesis if they believe this is warranted. If not, the student must leave the Chemistry program. If the QE Committee scores the revision as a fail the student's research advisor may petition the full department to allow the student to defend a Master's thesis. If not, the student must leave the Chemistry program. In the case that a student is placed on the Master's track, a successfully defended Master's thesis may allow the student to be promoted to Ph.D. candidacy.

Questions and Scoring

The committee member will evaluate the student's performance in each category on a 1-5 scale as follows:

- 5 - Performance quality (not necessarily quantity) consistent with that of a very good Ph.D. defense.
- 4 - Performance quality (not necessarily quantity) would be adequate, but not exceptional, at a Ph.D. defense.
- 3 - Performance that is expected for a Ph.D. candidate. Achievement/knowledge is beyond that expected of a first-year graduate student or undergrad (i.e., in terms of accomplishments,

significantly more work is presented than that expected of an undergrad during a school year or REU session).

2 - First-year graduate student level knowledge/achievement

1 - Clear deficiencies

To pass each category, students must average a 3 from their QE Committee members. A mean below 3 in any category equates to not passing the qualifying exam. Only that deficient category needs to be addressed to pass a second effort. A low score in the research progress section may indicate the presenter should go back to the lab for several months before a re-examination

1. Mastery of Scientific Concepts

Did the student demonstrate a mastery of relevant background material, recent literature, and chemical concepts relevant to the described work?

2. Research Progress

Has the student demonstrated a track record of concrete, scientifically rigorous research achievement? To pass this category, a student must present results that are well supported by rigorous data appropriate for someone who has completed a quarter or more of the expected time to the Ph.D. degree. In most chemical disciplines, this would require a substantial progress towards a publishable manuscript, such as proving or disproving a hypothesis, establishing an appropriate mass of sufficiently interesting facts, or developing an instrument, method, or approach with unambiguous value.

3. Proposed Work

Did the student present—through both written and oral communication - a well thought out and scientifically significant proposal for future work, and did the student present a sensible research plan to carry out this plan?

4. Presentation/Communication

Did the student make a clear, concise presentation of scientific information (written and oral) and answer questions from the committee? The written document should be to the standards of a submission to a peer reviewed journal such as *J. Am. Chem. Soc.* The oral presentation should be of the quality necessary for a national meeting such as the ACS.

5. Mastery of Chemical Literature

Has the student demonstrated an ability to locate, retrieve, read and interpret current chemical literature?

XI. APPENDIX II - Example of Online Student Evaluation

2018 – 2019 Student – Chem Dept. Annual Evaluation

Due Date: FRIDAY, MAY 31, 2019

The following form is part your annual departmental evaluation. This evaluation covers May 16, 2018 – May 15, 2019. If you have questions, please contact pon@rice.edu. All fields in this evaluation need to be completed.

Please note that the evaluations will be shared with both the advisor and student.

General Information

Student *

First Last

Advisor *

Student ID Number *

Rice Email Address *

Matriculation Term and Year *

Instructions

Answer the following questions on a scale of 1-5 (1=Deficient; 2=Fair; 3=Good; 4=Very Good; 5=Outstanding) in relation to this academic year.

1.) What is your assessment of your research progress during this academic year? *

1 2 3 4 5

2.) How motivated do you feel towards working on your research project? *

1 2 3 4 5

3.) Rate how you feel about your research laboratory: *

1 2 3 4 5

Instructions

For the next 2 questions, please select from numbers 0-10.

4.) Indicate the number of peer-reviewed manuscripts this year (May 16, 2018 – May 15, 2019) in which you appear as author (or co-author): *

0 1 2 3 4 5 6
 7 8 9 10

5.) Indicate the number of oral and poster presentations (excluding Chem 600) you presented this academic year (May 16, 2018–May 15, 2019): *

0 1 2 3 4 5 6
 7 8 9 10

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6.) Select the teaching opportunities you experienced during this past academic year: *

TA Grader Instructor None

Written Evaluation

Using the space below, briefly explain what you were expecting to accomplish (research wise) at the beginning of this past academic year. *

Based on the expectations described above, briefly indicate your accomplishments during this academic year. *

Briefly describe any major research roadblocks and how they should be resolved. *

Briefly describe what you expect to accomplish during the upcoming year. *




APPENDIX XII

October 15, 2019

**Wiess School of Natural Sciences Policy
Graduate Student Time Off**

Effective November 15, 2019

- Full time graduate students are entitled to 10 weekdays of paid annual leave based on a 12-month appointment, for any reason, in addition to [University Staff holidays](#). Unused days may not be carried forward year to year and do not accrue payable time upon departure. Graduate students must coordinate their vacation plans with their advisers sufficiently far in advance to avoid last-minute conflicts. Graduate students who are teaching must also coordinate their plans with their teaching supervisor or graduate chair. Students may sometimes be required to work on University Staff holidays in order to staff ongoing projects and operations; students who work on a University Staff holiday will be able to use this paid day off at another time.
- Time away for professional activities (conferences, workshops, interviews, for instance) shall not count against paid annual leave.
- Short absences (those anticipated to be less than one week) due to a student's illness or that of a family member should be granted upon notice to a student's supervisor, provided they are commensurate with the episode. These should not be deducted from paid annual leave.
- If a graduate student cannot fulfill the duties of their appointment due to a medical emergency or the adoption or birth of a child, the student may be temporarily released from their academic responsibilities. Enrollment and stipend support may be continued for up to six weeks or until the appointment expires (whichever occurs first). A full description of the University short-term medical and parental release policy may be found on the [Office of Graduate and Postdoctoral Studies website](#).
- Graduate students who would like to report a deviation from this policy should talk to their department ombudsperson, their department chair or the Natural Sciences ombudsperson.

<p style="text-align: center;">OFFICE OF INTERNATIONAL STUDENTS & SCHOLARS</p>  <p>The mission of Rice University's Office of International Students & Scholars (OISS) is to provide the best service and support possible for our international visitors (whose population includes degree-seeking students, visiting and exchange students, faculty, researchers, staff, and others). We seek to enhance our foreign visitors' stay in the USA, and particularly at Rice, by providing quality cultural, academic, regulatory, and social programs.</p> <p>Website: http://oiss.rice.edu/ Contact: oiss@rice.edu</p>	<p>R.E.A.P. - International</p>	<p>REAP International (Rice Experiences Advertised to Prospects –<i>Internationally</i>), is a program designed to increase Rice University's visibility on a broad-based scale to prospective international students, overseas universities/schools, and overseas advising centers, through hearing about Rice students' experiences. Rice University international students choosing to participate with REAP International will be serving as a type of "ambassador" for our school.</p>
	<p>FISS - Friends of International Students & Scholars</p>	<p>FISS is an opportunity for an international student and a local family to meet and become friends during the year. The families enjoy getting to know international students and helping them feel at home, and are interested in learning about other countries. This program is offered through a partnership with the Institute of International Education--Southern Region Office.</p>
		<p>V.I.P. - Valuable International Perspectives - Launched in Spring 2008, V.I.P. serves as a place to highlight international perspectives on a variety of topics. It is an opportunity to showcase the wonderful wealth of cultural and traditional differences and similarities, as well as individual perspectives that our Rice international students & scholars bring to our campus and community.</p>
		<p>International Education Week is an opportunity to celebrate the benefits of international education and exchange worldwide. This joint initiative of the U.S. Department of State and the U.S. Department of Education is part of our efforts to promote programs that prepare Americans for a global environment and attract future leaders from abroad to study, learn, and exchange experiences in the United States.</p>
	<p>English and Culture Classes</p>	<p>English classes are offered to you by volunteers who enjoy meeting and helping Rice internationals, and receive no compensation except the enjoyment of meeting and working with you. Even if you feel confident in your English language skills, we encourage you to join us for a fun opportunity to make friends and find out more about American culture. These classes are available to Rice students, scholars, and their dependents.</p>
	<p>International Ladies Network</p>	<p>The Rice International Ladies Network wishes to invite all wives and international female students and scholars to our monthly gatherings. We want to get to know you!</p>
	<p>International Clubs</p>	<p>There are several International Clubs that have been formed at Rice: Latin American GSA, Caribbean Student Society, Rice Chinese Students & Scholars Club, French Club, Hong Kong Student Association, Indian Students at Rice, Rice Iranian Society, Japanese Association of Students & Scholars, Rice University Korean International Student Association, Rice Taiwanese Association, Turkish Student Association</p>

	<p>Biking? Register your bike at RUPD</p> <p>Website: https://rupdadmin.rice.edu/bike_registration_requirements/</p>
<p style="text-align: center; color: green;">Health Insurance Subsidy for Doctoral Students</p>	<p>Health Insurance Subsidy for Doctoral Students for the academic year 2020-2021, Rice University will contribute \$1,804 towards the cost of annual premiums for doctoral students who meet the eligibility requirements for the subsidy.</p> <p>Website: https://graduate.rice.edu/health-subsidy</p>
 <p style="text-align: center;">METRO FOR GRADUATE STUDENTS</p>	<p>Metro Q cards are available for sale in the Cashier's Office (first floor Allen Center). The card value is \$250. The cost to graduate students is \$55.00. A graduate student may buy only one Rice-subsidized METRO card per academic year.</p> <p>Website: https://riceprogramcouncilsite.wordpress.com/metro-q-card-for-graduate-students/</p> <p>Website for Metro schedule: https://www.ridemetro.org/Pages/index.aspx</p>
 <p style="text-align: center;">Passport to Houston</p>	<p>Passport to Houston - The RPC Passport to Houston Committee identifies and builds relationships with regional institutions that offer students educational and cultural opportunities for intellectual, social, and professional growth. The Passport program promotes and highlights these organizations by providing free or discounted admission.</p> <ul style="list-style-type: none"> - Unlimited access to Houston Zoo - Rice Night Events <p>Website: https://riceprogramcouncilsite.wordpress.com/passport/</p>
 <p style="text-align: center;">Parking</p>	<p>Campus Parking - Graduate students may register their cars to park in the Central Campus or Bioscience Research Collaborative Garages, West Lot Commuter, the South Stadium, or "Night Owl" parking. Night Owls may use Greenbriar Lot during the day, and the BRC Garage, North Lot, and E3G after 5:30pm on normal workdays, and all day on weekends and University holidays. All who do not have specific faculty/staff/grad student lot/garage decals must be out of each of those facilities by 7:30am, M-F. Contract Parking Rates are determined by lot location.</p> <p>Website: https://parking.rice.edu/registration/students/graduate</p> <p>Website – Parking Regulations: https://parking.rice.edu/sites/g/files/bxs1396/f/Parking%20regulations%20w-pic.pdf</p>
	<p>Membership to the Barbara and David Gibbs Recreation Center is available for purchase to faculty, staff, retirees, and graduate students of Rice University as well as to their spouse/domestic partner. Summer memberships are also available for additional fees to graduate and undergraduate students.</p> <p>Website: https://recreation.rice.edu/about</p>
 <p style="text-align: center;">Transportation</p>	<p>Campus Shuttle Service - For your convenience, Rice's comfortable, air-conditioned and lift-equipped buses, circle the university's inner loop and connect the Graduate Apartments; Texas Medical Center/BRC; Media Center; Rice Stadium; and the Annex Building (Rice Police Department, Post Office, Delivery Services, the Transportation Department and Naval OTC); to the rest of the campus.</p> <p>Website: https://transportation.rice.edu/</p> <p>Track shuttle information - http://www.rice.ridesystems.net/default.aspx</p>

	<p>The Chemistry Graduate Student Association (CGSA) is a group dedicated to the service of Chemistry graduate students at Rice. The group plans social gatherings and outings. CGSA acts as a liaison between graduate students and the Department of Chemistry to improve the experience of graduate students. The group also works with other Rice graduate student associations and helps make the Department a great place for graduate students.</p> <p>Website: https://chemistry.rice.edu/chemistry-graduate-student-association</p>
 <p>The Office of Graduate and Postdoctoral Studies</p>	<p>The Office of Graduate and Postdoctoral Studies governs programs beyond the undergraduate degree. In addition to managing admission, degree requirements, and finances, GPS supports professional development and diverse offerings to improve graduate student success.</p> <p>Website: http://graduate.rice.edu/ Contact: graduate@rice.edu</p>
<p>Graduate Student Association</p>	<p>All full-time students in graduate programs are members of the Graduate Student Association (GSA). The GSA mission is to enrich the graduate student 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 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.</p> <p>Website: http://gsa.rice.edu Contact: gsa@rice.edu</p>
	<p>The AAAS Career Development is for STEM grads and postdocs. This website provides several certificate programs including proposal writing, science communication, and science policy. Additionally, AAAS offers courses about networking, best practices in grant writing, bioscience entrepreneurship, management style tips, broader impacts, and more! Email Kim Gonzalez (klg1@rice.edu) to request an access key!</p> <p>Website: https://careerdevelopment.aaas.org/</p>
<p>Center for Academic & Professional Communication (CAPC)</p> <p>and</p> 	<p>The Rice University Program in Writing and Communication (PWC) oversees the Center for Academic and Professional Communication (CAPC) and several academic programs, including the First-Year Writing Intensive Seminars, credit-bearing courses for international graduate students, and courses that teach students how to communicate in their chosen disciplines. It provides students and faculty with the tools they need to communicate effectively through writing, speaking, and visual presentations. Our staff and peer consultants offer individual appointments as well as workshops and online resources to meet our students' and faculty's needs. We prepare students for success in the classroom, boardroom, and beyond.</p> <p>Website: https://pwc.rice.edu/about-us Contact: https://pwc.rice.edu/contact-us</p>
 <p>Center for Career Development</p>	<p>The Center for Career Development (CCD) offers programs, services and resources to guide you in pursuing your career goals. They equip students with the skills and confidence needed to discover their interests and navigate their career journey from college to graduation, and throughout your life.</p> <p>Website: http://ccd.rice.edu Contact: ccd@rice.edu</p>

<p style="text-align: center;">Center for Early Childhood Education</p> 	<p>Operated by the Center for Early Childhood Education, the Rice Children’s Campus is one of Houston’s premier early learning facilities serving the children of Rice University faculty, staff and students, age birth through five. Located on the west end of Rice University Campus, the Children’s Campus is committed to providing the best possible educational experiences for the children in its care and offers a rich curriculum grounded in the work of Maria Montessori. The Campus serves as a hub for an array of family programs and is dedicated to supporting families through cooperation and respect and the mutual goal of doing what is best for children in care.</p> <p>Website: https://www.discovercece.org/</p>
 <p style="text-align: center;">C I R T L</p>	<p>Rice has recently been invited to join the Center for the Integration of Research, Teaching, and Learning (CIRTL). CIRTL is an NSF Center for Learning and Teaching in higher education. CIRTL uses graduate education as the leverage point to develop a national STEM faculty committed to implementing and advancing effective teaching practices for diverse student audiences as part of successful professional careers. The goal of CIRTL is to improve the STEM learning of all students at every college and university, and thereby to increase the diversity in STEM fields and the STEM literacy of the nation.</p> <p>Website: http://www.cirtl.net/</p>
	<p>An important aspect of the Center for Teaching Excellence’s mission is to provide resources both for graduate students who are currently TAs or instructors of record at Rice, as well as for graduate students who wish to build academic careers in which teaching will play a significant role. As a part of these efforts, they recently established an accredited certificate program in pedagogy (Certificate in Teaching and Learning). CTE also offers TA training as well as seminars, workshops, and reading groups focused on teaching and learning.</p> <p>Website: http://cte.rice.edu Contact: cte@rice.edu</p>
	<p>Need help with your data? The Rice Data Science Consulting Clinic offers free advice and assistance on all your data science challenges. Free, drop-by consulting.</p> <p>Website: http://datascienceconsult.rice.edu/</p>
<p style="text-align: center;">DIGITAL MEDIA COMMONS</p>	<p>The Digital Media Commons (DMC) supports the creation and use of multimedia in education, scholarship, and creative expression. Working toward this end, they provide services that include hands-on training, assistance with digital projects, and access to the essential tools for creating digital resources such as digital video and audio, images and animations, PowerPoint presentations, web pages, and more.</p> <p>Website: http://library.rice.edu/dmc</p>
<p style="text-align: center;">RICE DISABILITY SUPPORT SERVICES</p>	<p>It is the mission of Disability Support Services (DSS) to be committed to providing access to the educational environment for students. DSS also assists faculty, staff, and visitors with accommodation requests to help ensure equal access and opportunity.</p> <p>Website: http://dss.rice.edu/ Contact: adarice@rice.edu</p>

 <p>RICE DOERR The Doerr Institute For New Leaders</p>	<p>Because the path to leadership is different for everyone, so is the leadership training you'll find at The Doerr Institute for New Leaders. We've moved away from prescriptive, one-size-fits-all leadership training approaches, instead offering individualized coaching from certified coaches. Our objective is to connect Rice students with the awareness and tools that will help them find, sharpen, and grow their true leadership potential.</p> <p>This executive-quality leader development experience is provided, at no cost, to all Rice students.</p> <p>Website: https://doerrinstitute.rice.edu/</p>
<p>FELLOWSHIP OPPORTUNITIES</p>	<p>The Office of GPS website has fellowship opportunities list at https://graduate.rice.edu/fellowship-opps</p>
 <p>RICE Fondren Library</p>	<p>The Fondren Library provides resources to Rice Ph.D. Students & Post Docs. The website is an interactive guide that hosts information about Books/Articles/Studies/Reports, Fellowships/Grants, Societies/Agencies, Rice Info, Responsible Research, Post Docs, Getting Published, Open Access Resources, Income Tax Info.</p> <p>Website: http://libguides.rice.edu/c.php?g=45066</p>
 <p>The Initiative for Students KNOWLEDGE</p>	<p>The Initiative for Students is Rice's three-year volunteer engagement and fundraising effort to provide students with professional experience, leadership training and hands-on learning, while increasing scholarship support and building on our strengths in research, teaching and learning, and academic excellence. The Initiative provides opportunities for students to explore meaningful careers through externships and internships.</p> <p>Website: http://giving.rice.edu/student-initiative Contact: giving@rice.edu or alumni@rice.edu</p>
 <p>myIDP Science Careers INDIVIDUAL DEVELOPMENT PLAN</p>	<p>myIDP - a unique, web-based career-planning tool tailored to meet the needs of PhD students and postdocs in the sciences.</p> <p>myIDP provides:</p> <ul style="list-style-type: none"> • Exercises to help you examine your skills, interests, and values • A list of 20 scientific career paths with a prediction of which ones best fit your skills and interests • A tool for setting strategic goals for the coming year, with optional reminders to keep you on track • Articles and resources to guide you through the process <p>Website: http://myidp.sciencecareers.org/</p>
 <p>RICE ALLIANCE Rice Alliance for Technology and Entrepreneurship</p>	<p>The Rice Alliance for Technology and Entrepreneurship (Rice Alliance) is Rice University's nationally-recognized initiative devoted to the support of technology commercialization, entrepreneurship education, and the launch of technology companies. It was formed as a strategic alliance of three schools: the George R. Brown School of Engineering, the Wiess School of Natural Sciences and the Jesse H. Jones Graduate School of Business in collaboration with the Vice Provost and the Office of Research.</p> <p>The Rice Alliance is a catalyst for building successful ventures through education, guidance and connections. Its mission is to support the creation of technology-based companies and the commercialization of new technologies in the Houston community and Southwest.</p> <p>Website: http://alliance.rice.edu</p>

	<p>Sallyportal fosters connections among Rice students, alumni, parents and campus partners in support of career exploration, networking and mentorship. This is the best connection to Rice alumni. Build an organized profile that has a detailed and personable summary and an experience section that highlights your strengths and achievements; reach out to Rice alumni; and arrange informational interviews with several people in the field you want to learn more about.</p> <p>Website: https://sallyportal.org/</p>
	<p>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. Student Health does not file or bill health insurance. Their services are available to all eligible students regardless of the type of health insurance owned.</p> <p>Website: http://health.rice.edu Contact: ahlsv@rice.edu</p>
	<p>The Student Wellbeing Office supports student development and success by providing a good first point of contact for students who want to talk to someone about solutions to their wellbeing concerns. They give advice and practical support to help students resolve personal challenges, such as conflicts with friends, difficulty making decisions, struggling with your identity, and academic concerns or problems that are more serious in nature.</p> <p>The Rice Counseling Center (RCC) offers free, confidential support to help students manage course work, deadlines, personal and professional relationships, being away from home and/or family matters. The clinical team at the RCC is a diverse team of psychologists, social workers, counselors, and a consulting psychiatrist committed to providing professional, compassionate and individualized care. The RCC team provides assessment, short-term psychotherapy, and consultation services.</p> <p>Website: http://wellbeing.rice.edu Contact: wellbeing@rice.edu For appointments, call (713) 348-3311</p>
	<p>Versatile PhD is an online resource to help humanities, social science, and STEM graduate students and PhDs in all fields identify, prepare for, and succeed in non-academic careers. Graduate students, faculty, postdocs, and others have free access to premium resources provided through Rice University's subscription to VPhD resources.</p> <p>Website: https://graduate.rice.edu/log-versatile-phd</p>
	<p>The vision of the Rice Women's Resource Center is not only a space on the Rice University campus, but also a community that fosters personal relationships and conversations. Our vision is to increase awareness of and sensitivity to gender issues in order to build a more supportive, dynamic atmosphere on campus. Through a series of educational and social events and programs, we hope to actively engage with diverse identities and facilitate critical discussion of gender issues. The center also serves as an innovative platform and safe space for expression and development of philosophies and ideologies.</p> <p>Website: http://women.rice.edu/ Contact: womenrc@rice.edu</p>