

Virginia Commonwealth University

Department Of Chemistry

GRADUATE STUDENT HANDBOOK

Dear Entering Graduate Student:

Welcome to the graduate program of the Department of Chemistry at Virginia Commonwealth University. I am confident that you will find that the education you obtain at VCU will benefit you throughout your professional career and that you will find the Department an enjoyable place to work and study. This handbook is designed to answer any questions you may have regarding the graduate program.

The first section gives some general information, which will supplement the Graduate Rules (Section 2). Proficiency Examinations are scheduled for entering students in August and January prior to the start of classes. The results of these examinations will allow us to place new students in the appropriate level classes.

Section 2 contains the Rules of the Graduate Program. I suggest you familiarize yourself with these rules prior to your arrival. These rules are dynamic and are revised by the faculty from time to time. As changes are made, students are notified. The current rules of the Seminar Program are found in Section 3. Sections 4 through 8 elaborate other guidelines and procedures, which are important for a student's career.

I hope you will find this information useful in preparing to enter the graduate program. If you have any questions, please feel free to contact me. Once again, welcome to the Department of Chemistry and VCU.

Sincerely yours,

Sarah C. Rutan
Graduate Director

**INFORMATION FOR ENTERING
GRADUATE STUDENTS**

**DEPARTMENT OF CHEMISTRY
VIRGINIA COMMONWEALTH UNIVERSITY**

Scott Gronert, Chair

Sarah C. Rutan, Graduate Director

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1. GENERAL DEPARTMENTAL INFORMATION

This information is to supplement the Graduate Rules and to clarify the Department's policies and procedures. If you have any questions about a particular rule or a problem you have encountered which are not answered in this booklet, check with Dr. Rutan.

1. Location

The Department of Chemistry is located in Oliver Hall, 1001 West Main Street, and the Temple Building, 901 West Main Street, Richmond, Virginia. The Departmental Office is located in Room 3041, Oliver Hall.

2. Departmental Administration and Staff

Chair

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Room 3040 phone 828-2753
e-mail sgronert@vcu.edu

Assistant Chair –

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Graduate Director –

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e-mail srutan@vcu.edu

Administrative Support –

Ms. Diane Ruff, Office Manager
e-mail druff@vcu.edu
Room 2059..... phone 828-1299

Stockroom Manager –

Ms. Rinnie Brown
e-mail hcbrown@vcu.edu
Room 3054 phone 828-7501,

Ms. Monica Atkinson,
e-mail atkinsonml@vcu.edu
Room 3041 phone 827-0352

Director of Instrumentation –

Dr. Jody Turner
e-mail jturner9@vcu.edu
Room 4023B... phone 828-5377,

Ms. Emma Goodridge,
e-mail goodridgee@vcu.edu
Room 3041 phone 828-6660

NMR Facility –

Dr. Yun Qu
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Temple Room 3304/3307
phone 828-1943

Fiscal Technicians –

Ms. Rose Vaughan
e-mail rmvaugha@vcu.edu
Room 2057 phone 828-7514

MS Facility –

Dr. Kristina Nelson
e-mail ktnelson@vcu.edu
Oliver Hall Education Room 1076
phone 828-7445

Ms. Joann Williams
e-mail jpwilliams@vcu.edu
Room 2056 phone 828-9613

Ms. Taresha Shelton
e-mail tshelton2@vcu.edu
Room 2048 phone 828-6893

3. **Major Department Committees Involving Graduate Students**

Graduate Recruiting and Admissions Committee (GRAC) - Responsible for: recruiting new graduate students; reviewing applications for admission to the graduate program in chemistry and making recommendations on these applications to the Graduate Director for action; preparing recruiting posters and brochures; arranging for visits of potential graduate students; evaluating transfer credit for courses taken at other universities and making recommendations to the Graduate Director and GEAC regarding such credit.

Graduate Evaluation and Advising Committee (GEAC) - Responsible for: advising and scheduling courses for first year graduate students and upper level graduate students who have not chosen a research advisor; reviewing graduate student petitions for withdrawal from courses or exceptions to the Graduate Rules and making recommendations on these petitions to the faculty and Graduate Director; reviewing applications for Department and University fellowships and making recommendations for awards to the faculty; reviewing graduate student records and grades and making recommendations to the Chair, Graduate Director, and/or faculty, as appropriate, regarding graduate student academic problems; ; considering change of status applications (enrolled students changing from MS degree goal to Ph.D.). Students desiring to effect this change must be in good standing with a GPA of at least 3.00 and must not have been previously restricted to the M.S. level. Students should submit a request to GEAC, including unofficial transcripts and two letters of reference to the GEAC to be considered for a change from the M.S. to the Ph.D. program.

Graduate Director- Responsible for: coordinating efforts of GRAC, GEAC, and other departmental committees involving the graduate program; scheduling dates and times for Proficiency and Cumulative Examinations and reporting the results of these exams to the faculty and students; reviewing and approving thesis and dissertation committees; scheduling thesis, oral candidacy, and dissertation defenses; assigning, in consultation with the GRAC, Graduate Research Awards; reviewing graduate student teaching and research evaluations and reporting problems to the faculty and/or GEAC; writing letters of warning for academic problems to the graduate students; acting as liaison between the graduate students and Departmental and University committees and administration.

4. **Academic Performance**

Acceptable grades in graduate courses are A or B. Grades below B will cause a review of progress by the GEAC and/or Graduate Director and a letter of warning from the Graduate Director. Multiple grades below B may result in dismissal from the program in accordance with the Graduate Rules. Graduate students may not withdraw from a course without the permission of the GEAC. Graduate students who are having problems should talk with the Graduate Director or the Chair, and may petition the GEAC for permission to withdraw from a particular course. However, this permission will not automatically be granted.

5. **Stipend Payments**

GTAs and Graduate Fellows are paid on the 1st and 16th of each month. If these payday's fall on a weekend or holiday, payday is the last working day prior to the

scheduled payday. Payment is distributed by direct deposit to the student's bank account. Tuition payments for GTAs and Graduate Fellows are made directly to the University by the Graduate School or Department, as appropriate. Students should plan to pay required fees at the time of registration.

6. Registration for Courses

Entering students will meet with the GEAC prior to registration, to schedule courses for the upcoming semester. After advising by the GEAC, graduate students may register online. Students should have a VCU identification card and student ID number in order to register.

7. Health Insurance

All graduate students are required to have health insurance coverage. A health service fee is assessed every student. Students may also purchase an additional health insurance policy at registration.

8. Choosing a Research Advisor

Each faculty member will present his or her research interests to the entering graduate students at a poster session to be scheduled the Friday before Fall break, every fall semester. Students should then arrange individual sessions with those faculty members in whose research the student is interested to discuss potential research projects. Students who begin graduate studies in the fall semester should choose an advisor by December 15, and students who begin graduate studies in the spring semester should choose an advisor by April 15. The completed signature form (Appendix A of the Graduate Rules) must be submitted to the Graduate Director. The Department Chair must approve all research advisor assignments prior to a student commencing research work in a faculty member's laboratory (see pp. 18-19 for more information).

9. Library

There are two libraries, the Cabell Library on the Monroe Park Campus and the Tompkins-McCaw Library on the Medical Campus. The Cabell Library will have much of the chemical literature and books that students will need. The student ID card is second floor of Cabell Library.

10. Shuttle Bus System

The VCU Campus Connector provides complimentary transportation service between the Monroe Park Campus and the VCU Medical Center. Service is provided for students, faculty and staff with a valid VCU Card. The first trips begin at Cabell Library and at Sanger Hall. VCU Campus Connector runs: Monday – Friday, 6:30 a.m. – 8:00 p.m. approximate 10-minute time intervals. Monday – Friday, 8:00 p.m. – 2:00 a.m. approximate 15-minute time intervals. Saturdays and Sundays, 10:00 a.m. until 9:00 p.m. approximate 15-minute time intervals. University observed holidays and breaks may conform to a different schedule. Please call the parking office or visit <http://www.bsv.vcu.edu/vcupark/transit.htm> for changes.

11. Mail

Each graduate student is assigned a mailbox in the mailroom, Oliver 3060. Mail will be placed in this box once a day. In addition, important memos and notices will be placed in this box. The official departmental mailing address is: Department of Chemistry, Box 842006, Virginia Commonwealth University, Richmond, VA 23284-2006. Please note that graduate students are responsible for checking both this mailbox and their official VCU e-mail on a regular basis.

12. Stockroom (Room 3054)

The chemicals for the freshman and organic laboratories are prepared by stockroom employees and placed in the teaching labs. If you run short of material or need something not supplied, you should come to the stockroom for those items yourself; do not send a student. However, you should not leave the lab while it is in session. Therefore you must check beforehand to ensure that you have sufficient chemicals and equipment to carry out the assigned experiments. If there are consistent problems, notify the Stockroom Manager.

13. Phone Number

The Departmental telephone number is (804) 828-1298. From a University telephone, one can dial 81298.

14. FAX

The departmental FAX machine is located in the office, Room 3041. The FAX number is 804-828-8599. It is to be used for departmental business only.

15. Other Phone Numbers of Interest (All Area Code 804)

General Registration Information	828-1349
International Student and Scholar Services.....	828-0808
College of Humanities and Sciences	828-1674
School of Graduate Studies	828-6916
James Branch Cabell Library	828-1110
Tompkins-McCaw Library	828-0636
Student Health Services, Academic Campus	828-8828

16. Security

Building security is the responsibility of all building occupants. If you see a lab door open with no one present, close it. If you see people wandering around who obviously are not students or employees, do not be afraid to call the Campus Police. Keep doors locked and do not leave valuables unattended.

Emergency Numbers:	Campus Police	8-1234	Security Escort	8-9255
	Fire	8-1234	Chemical Spills	8-9834

17. Maintenance

If you see a problem with the physical plant, report it immediately. If it is during the day, report the problem to the stockroom. If it is at night or on the weekends, call the emergency repair number or campus security. The most obvious problem is water running out under a lab door. Do not just walk away from such problems.

Emergency Repairs Call: 8-9444

18. Department Faculty

Name	Phone Number	Office Number	E-Mail Address
Julio Alvarez	828-3521	4025	jcalvarez2@vcu.edu
Dusan Bratko	828-1865	4021	dbratko@vcu.edu
Everett Carpenter	828-7508	3037	ecarpenter2@vcu.edu
Maryanne Collinson	828-7509	4429-O	mmcollinson@vcu.edu
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Scott Gronert	828-8511/2753	3045/3040	sgronert@vcu.edu
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Sarah C. Rutan	828-7517	4423-O	srutan@vcu.edu
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Teaching Faculty

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Debbie Polo	828-0691	2065	dlpolo@vcu.edu
Muhammed Sahli	828-7510	2072	mssahli@vcu.edu
Don Shillady		2045	ddshillady@vcu.edu
Ruth Topich	828-1724	2066	rmtopich@vcu.edu
Trey Henshaw	828-4156	2070	wthenshaw@vcu.edu

2. GRADUATE RULES

VIRGINIA COMMONWEALTH UNIVERSITY

Graduate Program in Chemistry

The Chemistry Department has compiled the following information to aid applicants and students in understanding the nature and requirements of the graduate program for the M.S. and Ph.D. degrees. This document is located at

<http://www.has.vcu.edu/che/pdfs/gradhandbook10.pdf>

Additional information concerning graduate study may be obtained from the Graduate Bulletin of Virginia Commonwealth University <http://www.vcu.edu/bulletins/gpb/>. Questions should be addressed to the Chair, Department of Chemistry, P.O. Box 842006, Virginia Commonwealth University, Richmond, Virginia 23284-2006, (804) 828-1298.

A. Degree Programs

Virginia Commonwealth University offers programs leading to the Doctor of Philosophy and Master of Science degrees in analytical, inorganic, organic, physical and, in cooperation with the Department of Physics, to the Doctor of Philosophy degree in chemical physics. A plan of study is worked out individually for each student. In keeping with the University's commitment as an urban institution, the department also offers part-time programs leading to the Master of Science degree and Doctor of Philosophy degree.

B. Admission

Admission to the programs in chemistry or chemical physics is open to students having either a bachelor's or master's degree in chemistry, or to students with a degree from an accredited college or university who have earned 30 semester credits in chemistry. Admission to the chemical physics program is also open to students with a bachelor's or master's degree in physics. Acceptance is based upon excellence of undergraduate performance, satisfactory scores on the Graduate Record Examination, and letters of recommendation. Admission may be granted when deficiencies exist; these deficiencies should be removed by the end of the first year of graduate study, at which time the student's progress will be evaluated. Courses that are remedial or designed to remove deficiencies will not be accepted for credit toward the fulfillment of the course requirements for the master's or doctoral degree. Applications information is found on the department website at

<http://www.has.vcu.edu/che/graduate/prospective.html>.

Applications should be filed early to permit adequate review and ensure consideration. All applicants will be notified of the decision made after applications are completed and reviewed.

In order to remain as an enrolled graduate student in chemistry, full-time or part-time, students must enroll in a graduate course in chemistry for at least one semester hour of credit each semester during the academic year (fall and spring semesters). This rule is pursuant to the VCU Graduate Bulletin requirement, which applies to all graduate students. A student who does not enroll during any semester after admission to the

program may be considered for readmission only after reapplying for readmission through University Enrollment Services.

A student who wishes to change their degree goal from M.S. to Ph.D. or wishes, as a continuing student, to pursue the Ph.D. degree immediately on completion of the M.S. degree in chemistry must be in good standing with a GPA of at least 3.00 and must not have been previously restricted to the M.S. level. Students should submit a request to Graduate Evaluation and Advising Committee (GEAC), including unofficial transcripts and two letters of reference to the GEAC to be considered for a change from the M.S. to the Ph.D. program.

A student who wishes to pursue a Ph.D., is not currently enrolled as a graduate student and has completed a M.S. degree in chemistry at VCU shall submit a new, complete application for admission to the Ph.D. program through University Enrollment Services.

The Graduate Recruitment and Admissions and Graduate Evaluation and Advising Committees may solicit opinions from the faculty of the Department of Chemistry in evaluating a petition for change of status or new application.

C. Financial Assistance

Graduate students in the Chemistry Department may receive financial support by means of a teaching assistantship (TA), a research assistantship (RA), a fellowship or a scholarship. Students receiving financial support from the University may not hold outside employment without the written permission of the Chair of the Chemistry Department. In order to continue to receive financial support it is necessary that the student maintain good standing and be making satisfactory progress toward a degree. (See the Graduate Bulletin <http://www.vcu.edu/bulletins/gpb/>)

Graduate students who are teaching assistants are required to perform teaching duties in recitation sections and in laboratory sections and related duties as assigned by the Assistant Chair. These duties are carried out under the direction of faculty who are assigned to supervise the teaching of that particular course.

Research assistants perform duties in the research laboratories of faculty members who have financial support of their research either from the University or from an outside agency.

There are a limited number of fellowships available through the Chemistry Department. Information concerning fellowships, loans, and other types of financial aid may be obtained from the Chemistry Department Graduate Director. These fellowships are generally awarded by the Graduate Director in consultation with the GEAC.

All financial aid is awarded on an academic year basis of nine months unless otherwise stated. The beginning date for teaching assistants, research assistants and fellows is August 10th unless otherwise stated. The Graduate Bulletin and the Undergraduate Bulletin of VCU should be consulted for the specific date for the beginning of classes.

Financial assistance for the summer is usually available and students requiring support for the summer months should consult with their research advisor or the Graduate Director during the Spring Semester. The department rules for awarding available financial support to graduate students are as follows:

1. A student who enters the graduate program with a bachelor's degree and who seeks the M.S. degree on a full-time basis may anticipate support from the department (either TA or RA) for a maximum period of **TWO CALENDAR YEARS PLUS ONE SEMESTER**, provided they are making satisfactory progress towards their degree.
2. A student who enters the graduate program with a bachelor's degree and who seeks the Ph.D. degree or who continues without interruption from the M.S. to the Ph.D. program on a full-time basis may anticipate support from the department (either TA or RA) for a maximum period of **FIVE CALENDAR YEARS**, provided they are making satisfactory progress towards their degree
3. A student who enters the graduate program with a master's degree and who seeks the Ph.D. degree on a full-time basis may anticipate support from the department (either TA or RA) for a maximum period of **FOUR CALENDAR YEARS**, provided they are making satisfactory progress towards their degree. (This assumes that only two courses from the previous degree will transfer to VCU.)
4. Students seeking additional support beyond the above period for any reason shall petition the faculty for each additional semester of support no later than mid-term of the final semester of support.
5. Stipends for teaching assistants and research assistants may vary depending upon assignment, experience, quality of performance and degree sought.

D. Duties of Teaching Assistants

The primary duties of the teaching assistants are to further the student's comprehension of chemistry, to help the student develop proper laboratory techniques, and to develop the assistant's teaching effectiveness. Therefore, it is the assistant's responsibility to have a thorough knowledge of the material to be presented and to be prepared for the laboratory or recitation section. Each graduate student will be required to be a teaching assistant for at least one semester.

The presentation and organization of the subject material will be in accordance with the directives of the faculty member teaching the course. When the course is taught by more than one faculty member, one of them will act as Director. It is the teaching assistant's responsibility to know and follow the policies of the faculty member teaching the course concerning exams and grading, make-up laboratories, make-up laboratory assignments, make-up exams, safety and any special rules pertaining to a particular course. The TA may also be required to assist in the grading of examinations for the course.

To ensure that the teaching assistant has a thorough knowledge of the material presented, inexperienced teaching assistants (i.e., those who have not taught the course at VCU before) will be required to attend all lectures for the course in which they are TA's.

Students teaching the recitation section for freshman chemistry should attend each of the chemistry lectures, and students teaching the laboratory sections for freshman or organic chemistry should attend the appropriate laboratory lecture. Experienced teaching assistants (i.e., those who have taught the specific course before) or those TA's for upper level courses are encouraged to attend the lectures, but are not required.

E. Proficiency Examinations

Each student entering the graduate program with an undergraduate degree in chemistry shall take proficiency examinations in the four areas of chemistry: analytical, inorganic, organic and physical chemistry. These examinations will be offered to incoming students at the time of admittance to the program (August or January). The examinations are the standardized ACS examinations and will be graded with a score of 2, 1 or 0. If a student receives a score of 2, they are considered to be proficient in that area. A score of 1 indicates that the student is deficient in some area of the subject, yet they have enough knowledge to take the graduate level course to clear the deficiency. A score of 0 indicates a severe deficiency in the undergraduate material, so the student will be required to take the undergraduate course to clear the deficiency. The following table indicates the coursework required for a given score in each area.

Area	Score of 1	Score of 0
Analytical	Three credits of graduate analytical courses	CHEM 409
Inorganic	CHEM 620	CHEM 406
Organic	CHEM 504	CHEM 301 and/or 302
Physical	CHEM 510 or 511**	CHEM 510 or 511**

*Students who have not completed the undergraduate or equivalent course(s) any of the four areas will be expected to take the corresponding undergraduate course for credit. A B or better in that class will be considered to clear the deficiency. Students with poor grades in their undergraduate classes may be required to take additional courses beyond those listed above to clear the deficiency.

**CHEM 510 or 511 will be recommended by GEAC depending on the student's performance on the corresponding section of the proficiency exam.

Students entering the chemical physics program must pass proficiency examinations in two areas of chemistry and two areas of physics (mechanics; electricity and magnetism). Students entering with a bachelor's or master's degree in chemistry who have not taken the physics courses previously can satisfy the physics requirement with "A"s or "B"s in PHYS 301, 302 (classical mechanics), and 376 (electromagnetism). Students entering with a bachelor's or master's degree in physics who have not taken the chemistry courses previously may satisfy the chemistry requirement with "A"s or "B"s in two of four courses, CHEM 301-302 (organic chemistry; the two semester sequence counts as one course only), CHEM 406 (inorganic chemistry), CHEM 409 (instrumental analysis) or CHEM 510 (atomic and molecular structure).

There is no official record on the student's transcript of the performance on the proficiency examinations.

F. Advising of Graduate Students

1. Advising of New Students

The Graduate Evaluation and Advising Committee (GEAC) will act as advisor for all entering graduate students. The committee, after consideration of the results of the proficiency examinations and in consultation with the student, will plan a course of study for the first year of graduate work. The committee will follow closely the progress of each student and provide counseling until a research advisor is chosen. At the end of the fall and spring semester, the progress of all graduate students will be reviewed and evaluated by the graduate director and GEAC. Results in course work, performance in research, and performance on examinations will be considered. Based upon the results of these evaluations, students will be recommended either to continue or to terminate their graduate studies. It is the responsibility of each graduate student, full-time or part-time, to make an appointment to talk with the graduate director during the registration period at the start of each semester until a research advisor is chosen.

The rules regarding the performance of all graduate students in courses are as follows:

- a. A student seeking a M.S. or Ph.D. degree must have a "B" average in graduate academic courses. A "B" average in course work excludes seminar and research grades.
 - b. A student who receives a grade below "B" in any graduate course will be reviewed by the Graduate Evaluation and Advising Committee and will receive a letter of warning from the Graduate Director.
 - c. The status of a student who receives any grade below "S" in research will be reviewed by the GEAC, in consultation with the research advisor, and a plan for correcting the deficiency will be devised. Additional grades in research below "S" may lead to dismissal from the program.
 - d. A student earning three grades below "B" in approved graduate courses during the first year of graduate study will be dismissed from the program. A student who earns a third grade below "B" in an approved graduate course after the first year of graduate study will be reviewed and may be dismissed from the program. If the student is seeking the Ph.D. degree, he or she may be permitted to complete the M.S. degree at the discretion of the faculty. In any event, a student must have no more than six credit hours or 20 percent of total credit hours attempted (whichever greater) at "C" or below level ("C," "D," "F"). Students who receive any grade of "D" or "F" will be reviewed for possible dismissal.
 - e. A student may achieve a "B" average by:
 - i. earning sufficient grades of "A" in other approved graduate courses or
 - ii. taking recommended* additional graduate courses beyond what is required and earning a grade of "B" or better.
- *(The Graduate Evaluation and Advising Committee will determine which course(s) may be used to correct deficiencies and when such courses are to be taken).
- f. To maintain satisfactory progress in the program, a graduate student may not withdraw from a course without the permission of the Graduate Evaluation and

Advising Committee. A student seeking permission to withdraw from a course should petition the GEAC in writing prior to the official withdrawal date. The GEAC must receive a written evaluation of the student and recommendation about the petition from the course instructor prior to reaching a decision. Withdrawal without permission of the GEAC may jeopardize financial support and/or continuance in the graduate program.

2. Selection of a Research Advisor

All graduate students entering in the fall semester are required to attend the poster session held during the fall semester. These posters are presented by current graduate students (second year and above) and allow the new student to obtain an overview of the research being conducted in the chemistry department. This information will allow the student to make decisions regarding both research and committee selection. The poster presentations will serve to fully integrate the student within the department as well as to provide valuable professional insights that will be useful during the student's tenure in graduate school and beyond. If a student is unable to attend the poster presentation, then they will be required to schedule individual meetings with representative faculty members (at least 75%) from each of the four divisions and obtain their signatures. Upon completion of these meetings, the student should select a research advisor, secure the potential advisor's signature and turn in the completed form to the Graduate Director. Students who begin their studies in the fall semester should submit this form by December 15; students who begin their studies in the spring semester should submit this form by April 15. The Graduate Director shall consult with the Chair who will have final approval of the choice of research advisor, taking into account the guidelines in the next paragraph. The student and advisor will be notified of the approval within two weeks of submission of the selection form.

A tenured faculty member can accept a graduate student as a research student

- * if extramural support for research is either available or being sought by that faculty member, and
- * if no more than two graduate students in that research group would then be supported by Departmental, College or University funds.

Upon selecting a research advisor all students must enroll in at least one semester hour of research, CHEM 697 (or PHYS 697 if appropriate), each semester during the academic year until the completion of the degree sought.

For both the Ph.D. and M.S. seeking student, the research advisor in consultation with the student shall appoint a committee that is composed of at least four members including the research advisor. This committee selection should be constituted by the end of the first summer of research. One member of the committee must be from outside the chemistry department, and one member must be from outside of the division. For students in the Chemical Physics track, members of the Physics Department are to be considered as members of the Chemistry Department and may not serve as the outside member. The names of the committee members must be

submitted to the Graduate Director for approval. The Graduate Director will appoint a tenured faculty member other than the research advisor as Chair of the thesis or dissertation committee.

A student seeking an M.S. degree should meet formally with their committee approximately 8-12 months prior to the intended date for defense of the thesis. The purpose of this meeting is to allow the student to present a research plan and outline of work completed to their committee members. The committee may then provide guidance and a course of action prior to completion of the degree.

A Ph.D. student will meet with their committee as part of the oral candidacy examination. In some cases, the student may pass the oral candidacy examination, however, the committee may require future updates of the student's research progress. It is the responsibility of the student and the faculty advisor to schedule and hold these meetings at the agreed upon date, in order to fully satisfy the oral candidacy examination requirement.

The student is encouraged to consult any faculty member, including faculty not on their committee, concerning problems arising in the course of their research.

G. REQUIREMENTS - DOCTOR OF PHILOSOPHY DEGREE

The awarding of the Ph.D. degree is not based solely upon the completion of a definite number of credit hours, but rather upon the accomplishments of the student in research, in course work, in individual examinations, and on the dissertation. Requirements in detail are indicated below. Students seeking an exception to the graduate requirements must present their case to the members of the Graduate Evaluation and Advising Committee. If a majority of the committee agrees to support the appeal, they will present it to the faculty for departmental consideration.

1. Course Requirements

The student seeking the Ph.D. Degree in Chemistry must have a minimum of 18 credit hours in eight graduate courses not including credit for seminar and research. Six of these graduate classes must be courses offered by the Department of Chemistry. The Graduate Recruitment and Admissions Committee will review the transcript of all transfer students. (See the Graduate Catalog for the University rules for transfer credit.) The credit hours must include three of the following core courses (9 credits) selected from the following four areas:

Analytical	Three credits of graduate analytical courses
Inorganic	CHEM 620
Organic	CHEM 504
Physical	CHEM 510 or 511**

Students in the chemical physics program are required to complete CHEM 510 or PHYS 580 plus CHEM 511, CHEM 612, PHYS 576, and PHYS 641 plus three courses from the following list: CHEM 550, 591, 610, 611, 615, 616, 620, 634, 635, 691; PHYS

550, 571, 573, 591, 661, 691; MATH 517, 518; NANO 650, 651. A minimum of four graduate courses must be in chemistry.

All graduate students seeking the Ph.D. degree must complete 30 hours of CHEM 697, Directed Research, as a part of fulfilling the requirements for the degree. Students electing the chemical physics option may substitute 15 credits of PHYS 697 for 15 credits of CHEM 697. All course work for the student will be determined in consultation with the research advisor and with the approval of the Graduate Evaluation and Advising Committee.

All full and part-time graduate students will enroll each semester in CHEM 690, Research Seminar in Chemistry, except during the semester that the student is presenting their literature seminar or thesis/dissertation seminar, when they should register for CHEM 692, Chemistry Seminar Presentation.

An important aspect of graduate training is developing the ability to review critically the relevant literature. CHEM 698, Investigations in Current Chemistry Literature (0.5 credit) is designed for this purpose. Students are expected to register for at least 2 semesters of CHEM 698 during the course of their graduate studies. All full-time graduate students will be required to register for CHEM 698 in the semester preceding their literature seminar presentation. Up to two credits may be presented toward graduation requirements, with 1-2 credits considered one course.

2. Cumulative Examinations

The student seeking the Ph.D. degree must satisfactorily complete the written cumulative examinations in eight consecutive attempts. The examinations will be offered in analytical, inorganic, organic and physical chemistry and in chemical physics. The examinations will be offered five times during the academic year in the months of October, November, February, March and April, and will be graded on a scale of 2, 1 or 0 points. Students must achieve a total of six points to complete this requirement, of which four points must be obtained on examinations in the student's major area of interest. Students must also pass a minimum of two examinations with scores of two points each. The examinations will be no more than three hours in length and major topics for each division's examination may be announced no later than one week prior to the date of the examination at the discretion of the division. There may be examinations where the division chooses not to announce the topic. The topics may include material from the current literature, recent seminars in the area, course related topics, and topics which are not covered in a specific course within the department.

The examinations may be taken only after successful completion of the proficiency requirements. Thus, most students begin the cumulative examinations in their second semester of residency and, in any case, no later than their third semester of residency. An entering student who completes the proficiency requirements with no deficiencies may elect to begin the cumulative examinations immediately, but should consult the Graduate Director prior to beginning the examinations. Any student who wishes to delay beginning the cumulative exams past the third semester of residency must

request permission from the Graduate Director. Any unexcused absence from taking a cumulative exam will count as 0 points.

Part-time students shall also be required to follow this schedule.

3. Oral Candidacy Examination

Within six months after successful completion of the cumulative examinations, the student will submit one copy of an original Dissertation Research Proposal based upon their proposed research project, to each member of their dissertation committee. The dissertation committee may decide to return the proposal to the student if deficiencies exist prior to the examination. The Oral Candidacy Examination should be completed within six months after notification of completion of the cumulative examinations, and no later than six months prior to defense of the dissertation.

The proposal consists of the problem and its proposed solution which has been developed by the student according to the following rules:

- a. The literature must be searched thoroughly to assure that the proposal is original and has not been reported previously.
- b. Pertinent examples in the literature bearing on the feasibility of the proposed solution should be cited.
- c. The report shall include:
 - (1) An Introduction (giving the background and known facts on which the problem is based)
 - (2) A Statement of the Problem (giving a description of the problem, its significance and the proposed experimental approach)
 - (3) A Work Completed Section (describing research completed to date)
 - (4) A Methods Section (describing the steps to be carried out, discussion of feasibility, and possible outcome)
 - (5) A Conclusion Section (describing the interpretation of possible experimental results and their bearing on the original hypothesis)
 - (6) A section of Bibliographic References (in a style acceptable for a dissertation)

It is also suggested for the student to review the guidelines for preparation of NSF and NIH proposals for guidance. At the time of the oral examination, the student will be asked to explain the problem and to defend the proposed solution. It is presumed that a major portion of the questions in the examination will concern some facet of the proposal; however, questions may not be restricted to such areas.

A favorable decision of the Dissertation Committee with no more than one negative vote (all members being required to vote) shall be required to pass the oral portion of the candidacy examination. If a student fails the oral candidacy examination, a reexamination may be given.

The oral candidacy examination is open to all members of the graduate faculty. Faculty members in attendance may ask questions of the candidate, but their questions shall not be presented until after the dissertation committee has completed its questions. Faculty members other than those on the committee shall neither vote nor indicate on the success or failure of the candidate. The time and place of the examination shall be posted at least seven days in advance. It is the responsibility of the graduate student to inform the Graduate Director of the time, date and title of the proposal defense. As stated previously, this examination must be successfully completed at least six months before submission of the dissertation. Upon successful completion of the oral candidacy examination, the student becomes a candidate for the Ph.D. degree.

Once the oral candidacy examination has been passed, and the student has completed all required course work (with a 3.0 GPA) and the literature seminar, the student must fill out and submit to the Graduate Director the [Application to Candidacy Form](#).

4. Dissertation

The candidate must conduct a substantial original investigation under the supervision of the research advisor and prepare a dissertation reporting the results of the research and analyzing its significance in relation to existing scientific knowledge. Guidelines for preparation of the thesis can be found on the Graduate School website:

<http://www.graduate.vcu.edu/community/thesis.html>

When the advisor and the candidate determine that sufficient research has been completed to prepare a dissertation, a meeting of the candidate's committee will be scheduled to review the completed work. The committee will then recommend that the candidate begin preparation of the dissertation or complete additional research. Since the Ph.D. is awarded for completion of an original research problem, evidence (at minimum, a draft manuscript) of publication of the results of this work should be presented to the committee at this meeting. This meeting will occur at least six months prior to the anticipated defense date, and the result will be reported to the Graduate Director.

When the dissertation has been completed and the advisor considers it acceptable and all the Ph.D. Degree requirements have been satisfied, the candidate so notifies the Graduate Director of the examination date. Copies of the dissertation in acceptable form and style are to be submitted to the dissertation committee.

The examiners for the dissertation are the student's dissertation committee members. These examiners decide upon the acceptability of the candidate's dissertation for defense. An external examiner may be invited to participate in the dissertation thesis examination by reason of specific expertise in the candidate's field. Upon tentative acceptance of the dissertation by the examiners, the candidate appears before them for a final oral examination. This examination is open to all members of the graduate faculty. The final examination will be limited to the subject of the candidate's dissertation and related matters. A favorable vote of the candidate's

examiners, with no more than one negative vote shall be required for passing the final oral examination. There shall be prior public announcement of the candidate's name and department and title of dissertation at least seven days in advance. It is the responsibility of the graduate student to inform the Graduate Director of the time, date and title of the dissertation defense. Upon successful defense of the dissertation, the dissertation is to be corrected and submitted to the library via the electronic dissertation procedure. Note that two bound copies, to be prepared and bound at the students expense, are required for the Department of Chemistry and the major professor. A suitable company for dissertation binding is [Thesis on Demand](#).

The doctoral dissertation must be sent to Xerox University Microfilm for microfilming and publication of the abstract of the dissertation in [Dissertation Abstracts International](#). Information pertinent to the preparation of the dissertation and the procedures for electronic publication of the dissertation can be found at

<http://www.library.vcu.edu/preservation/theses.html>.

The candidate, having fulfilled all the requirements for the degree of Doctor of Philosophy, is recommended to the graduate faculty, general faculty, and the President of the University for the degree to be awarded.

5. General Progress in Study and Research

It is deemed feasible for a well-prepared, full-time student commencing graduate studies with a bachelor's degree in chemistry to complete the Ph.D. requirements in four and one-half to five years. It is expected that the first academic year will be devoted primarily to course work; the effort of subsequent years should be divided between research, the completion of course work and required examinations, and preparation of the dissertation. Virginia Commonwealth University requires that all graduate degree requirements be completed within eight years from the date of admission to graduate study. This time limitation applies to both full and part-time students.

It is highly desirable that a good start be made on the research project during the summer after the first year, and that research be continued even while courses are in progress during the second year.

It is considered desirable that the student be present as much as possible at the University. Students should conduct research whenever course work and teaching duties allow.

H. REQUIREMENTS - MASTER OF SCIENCE DEGREE

The awarding of a M.S. Degree depends upon the accomplishments of the student in research, coursework, individual examinations, and on the thesis. Requirements in detail are indicated below. If a student seeks an exception to the graduate requirements, the student must present their case to the members of the Graduate Evaluation and Advising Committee. If the committee, by a simple majority, agrees to support the appeal, they will present it to the faculty for departmental consideration.

1. Course Requirements

Candidates for the M.S. Degree are expected to have earned at least 12 semester credit hours in research and a minimum of 15 credit hours in six graduate courses not including credit for seminar. The Graduate Recruitment and Admission committee will review the transcript of all transfer students and make recommendations to the chemistry faculty regarding the credits to be accepted in transfer (See the Graduate Catalog for the University rules for transfer credit.)

The credit hours include three of the following core courses (9 credits) selected from the following four areas:

Analytical	Three credits of graduate analytical courses
Inorganic	CHEM 620
Organic	CHEM 504
Physical	CHEM 510 or 511**

The student will complete at least one additional course in his/her area of specialization and at least 12 hours of CHEM 697. Any other necessary course work for the student will be determined in consultation with the research advisor and with the approval of the Graduate Evaluation and Advisory Committee.

All full and part-time graduate students will enroll each semester in CHEM 690, Research Seminar in Chemistry, except during the semester that the student is presenting their literature seminar or thesis/dissertation seminar, when they should register for CHEM 692, Chemistry Seminar Presentation.

An important aspect of graduate training is developing the ability to review critically the relevant literature. CHEM 698, Investigations in Current Chemistry Literature (0.5 credit) is designed for this purpose. Students are expected to register for at least 2 semesters of CHEM 698 during the course of their graduate studies. All full-time graduate students will be required to register for CHEM 698 in the semester preceding their literature seminar presentation. Up to two credits may be presented toward graduation requirements, with 1-2 credits considered one course.

Once the student has completed all required course work (with a 3.0 GPA) and the literature seminar, the student must fill out and submit to the Graduate Director the [Application to Candidacy Form](#).

2. Research and Thesis

Each student conducts a research study under the guidance of the thesis advisor. Guidelines for preparation of the thesis can be found on the Graduate School website:

<http://www.graduate.vcu.edu/community/thesis.html>

When the advisor and the student determine that sufficient research has been completed to prepare a thesis, a meeting of the student's committee will be scheduled to review the completed work. The committee will then recommend that the student begin preparation of the thesis or complete additional research. This meeting will occur at least six months prior to the anticipated defense date, and the result will be reported to the Graduate Director.

When the thesis has been completed and the advisor considers it acceptable and all the M.S. degree requirements have been satisfied, the candidate so notifies the Graduate Director of the examination date. This date must be at least one month prior to the deadline for completion of all degree requirements. Four copies of the thesis, or more as required, in acceptable form and style are to be submitted to the thesis committee.

Upon approval of the thesis by the advisor, the student submits four or more copies as required to the thesis committee. The thesis is examined by the student's thesis committee. An external examiner may be selected by reason of special knowledge and distinction in the field of the candidate's work. On tentative approval of the thesis, the student appears for a final oral examination by the thesis committee. The final examination will be limited to the subject of the candidate's thesis and related matters. A favorable vote of the candidate's examiners, with no more than one negative vote shall be required for passing the final oral examination. The final examination shall be open to the faculty and its time and place, together with the candidate's name, department and title of thesis, shall be announced at least seven days in advance. It is the responsibility of the graduate student to inform the Graduate Director of the time, date and title of the thesis defense. Upon successful defense of the thesis, the thesis is to be corrected and submitted to the library via the electronic dissertation procedure. Note that two bound copies, to be prepared and bound at the students expense, are required for the Department of Chemistry and the major professor. A suitable company for dissertation binding is [Thesis on Demand](#).

Information pertinent to the preparation of the thesis and the procedures for electronic publication of the thesis can be found at

<http://www.library.vcu.edu/preservation/theses.html>.

The student having fulfilled all the requirements for the degree of Master of Science, is recommended to the graduate faculty, general faculty, and the President of the University for the degree to be awarded.

3. General Progress In Study in Research

It is deemed feasible for a well-prepared, full-time student commencing graduate studies with a bachelor's degree in chemistry to complete the M.S. requirements in two and one-half years. It is expected that the first academic year will be devoted primarily to course work; the effort of the second year will be divided between research and the completion of course work. It is essential that considerable progress be made on the research project during the summer after the first year. Virginia Commonwealth University requires that all graduate degree requirements be completed within a maximum of six years from the date of admission to graduate study. This time limitation applies to both full and part-time students.

It is considered desirable that the student be present as much of the time as possible at the university. Students should conduct research whenever course work and teaching duties allow.

I. POSTER PRESENTATION

All graduate students (second year and above) are required to present a poster on their research at a poster presentation held on the Friday before Fall break, every fall semester. The research progress of each graduate student will be evaluated by faculty members during the presentation. All first year graduate students must attend the poster presentation.

Guidelines:

1. All graduate students must have chosen their committee members and provided the names to the Graduate Director for approval by the end of the first summer in residence.
2. Posters must be no larger than the board size provided (3'x4').
3. Students will be required to orally present background material and their results to all graduate committee members for discussion.

Graduate Committee Evaluations:

1. The research progress of graduate students will be evaluated by their graduate committee members.
2. The completed evaluation forms for each student will be sent to GEAC.
3. The GEAC will evaluate the forms and provide a recommendation on the student's progress. The recommendation will then be forwarded to the graduate committee members, the student and the department chair. If necessary, the committee may call an additional meeting with the student to discuss their progress towards their graduate degree.

J. SEMINARS

All full and part-time graduate students will enroll each semester in CHEM 690, Research Seminar in Chemistry, except during the semester that the student is presenting their literature seminar or thesis/dissertation seminar, when they should register for CHEM 692, Chemistry Seminar Presentation.

Each degree-seeking student will be required to present a minimum of two seminars. The first will be a literature seminar, presented no later than the end of the fourth semester of residence. The second seminar will be a research seminar presented prior to the student's thesis/dissertation defense. Students in the chemical physics program will present one seminar in each department with the final seminar being presented in the department of the dissertation research project. The assignment of a literature seminar topic, the format of the abstract and a grade will be determined according to the rules of the seminar committee. A student whose presentation is unsatisfactory (a grade of "C" or less) will be required to give an additional seminar. Questions concerning material presented in seminars may appear on appropriate examinations. All full-time graduate students are required to attend departmental seminars.

In addition, each student is encouraged to attend appropriate seminars which are given in other departments on campus. The student is strongly urged to attend American Chemical Society, Sigma Xi and other professional meetings, and to travel to

other institutions to hear outstanding speakers in scientific fields whenever the opportunity is presented.

Approved by Faculty, 8/31/84

Revised: 10/7/86, 3/30/90, 6/94, 8/96, 7/99, 5/01, 6/05, 1/07, 3/08, 3/09

3. SEMINAR RULES

GUIDELINES FOR THE PRESENTATION OF GRADUATE STUDENT SEMINARS

All graduate students must present two acceptable seminars. The first seminar will describe a topic from the literature unrelated to the student's research project and the second seminar will describe the student's thesis or dissertation research. Procedures for satisfying each of these requirements, suggestions for how to prepare for these seminars and the specific description regarding seminars from the Graduate Rules follow.

I. Literature Seminar

- A. This seminar will be presented before the end of the student's fourth semester of residency. The student may choose when to present this seminar before the start of the third semester of residency. If this is not done the student will then be assigned a date for this seminar to be presented during the fourth semester of residency.
- B. The student must submit a topic for approval to the seminar chair. A form for topic approval is attached. Topic selection must occur at least one month prior to the start of the semester when this seminar is scheduled. The topic must not be related to the student's current or past research (e.g., B.S. research, M.S. research, job related research) or other research being conducted by the student's research advisor.
- C. A minimum of one of the journals articles used as one of the focal points for the literature seminar must be from one of the journals on the following list. The article must be a full journal article, not a letter, note, or review. The article must have been published within the last three years.

Journal of Chemical Society (Royal Chemistry Society Journals, Dalton, Perkin)	
Proceedings of the National Academy of Sciences	Langmuir
Journal of Physical Chemistry	Angewandte Chemie
Journal of Chemical Physics	Biophysical Journal
Inorganic Chemistry	Chemical Physics
Polyhedron	Physical Chemistry Chemical Physics
Analytical Chemistry	Journal of Molecular Biology
Journal of Polymer Science	Journal of Biological Chemistry
Polymer Chemistry	Journal of Biological Inorganic Chemistry
Polymer Physics	Journal of Natural Products
Journal of American Chemical Society	Nano Letters
Journal of Organic Chemistry	Science
Tetrahedron	Nature
Macromolecules	Physical Reviews
Biochemistry	Accounts of Chemical Research

- D. An abstract of the seminar must be prepared by the student and approved by the seminar committee Chair two weeks prior to the seminar. If this deadline is not met, the grade on this seminar will be lowered by one letter grade.
- E. The literature seminar requirement will be met by earning a grade of "B" or better. A grade below B will require the presentation of a seminar on a new topic during the following semester.

II. Thesis or Dissertation Seminar

- A. This seminar will describe the thesis or dissertation research of the student and be presented prior to the student's thesis/dissertation defense. This seminar should be scheduled at least one month prior to the start of the semester of its presentation.
- B. The preparation and approval of an abstract will follow the description given earlier for literature seminars (I.C.)

III. Suggestions for the Preparation of Seminars

- A. Always consult your research advisor regarding the selection of a topic for the literature seminar and the scheduling of the thesis/dissertation seminar.
- B. The abstract should be three to four pages in length, typed double-spaced. It is the student's responsibility to have this done. References to the appropriate literature must follow the format given in Chemical Abstracts. The abstract should provide a concise introduction to the subject and sufficient references to the historical and contemporary literature to permit the audience to efficiently study the subject. After approval of the abstract by the seminar committee, reproduction and distribution will be handled by the department office.
- C. The graduate student is responsible for the preparation of any visual aids which are used in the presentation of the seminar. The American Chemical Society publication "Handbook for Speakers" is to be followed in the preparation of the presentation. Visual aids should be simple, uncluttered and legible. All visual aids should be prepared and viewed by the speaker from the back of the seminar room to confirm that they are legible.
- D. Suggestions on how to organize your seminar.
 - 1. Why was the project undertaken? This should be an introduction to the audience explaining why they should be interested in the topic to be discussed (1-3 minutes).
 - 2. What was done? This should be a historical development of the topic (5-15 minutes).
 - 3. What was learned? What concepts or theories have evolved and give an explanation of them (10-15 minutes).
 - 4. What does it mean? Discussion of the state of the art today, how it can be used, what could or should be done to expand or to elucidate current data (5-15 minutes).
 - 5. Summation. A brief overview of the facts presented in your talk (3-5 minutes).
- E. Seminars should last about 45 minutes so that 10 to 15 minutes of questions can follow at the conclusion of the presentation. All graduate students are strongly encouraged to practice the seminar before fellow students, research advisors, or

others in order to obtain suggestions which will improve the seminar. The timing of the seminar, (See III.D) oral clarity and effective use of visual aids are very important. These mechanical considerations can insure that a scientifically sound seminar is understood.

- F. The graduate student should schedule an appointment with the seminar committee Chair to talk over the comments offered by those attending the seminar. The comments offered on the grading sheet (a copy is attached) should help to improve future presentations.

IV. Seminar Grading

All full and part-time graduate students will enroll each semester in CHEM 690, Research Seminar in Chemistry, except during the semester that the student is presenting their literature seminar or thesis/dissertation seminar. A grade of S (satisfactory) or U (unsatisfactory) will be assigned based on seminar attendance and constructive participation in the asking of questions. During the semester that the student is presenting their literature seminar or thesis/dissertation seminar, they should register for CHEM 692, Chemistry Seminar Presentation, and a grade of A, B, C, D, or F will be assigned based on the evaluation of the seminar by the faculty. The seminar evaluation forms (a copy is attached) that are filled out by members of the audience will be used in an advisory capacity by the faculty.

V. Seminar Committee

The seminar committee will be composed of a chair and additional faculty as assigned by the department Chair.

VI. According to the Graduate Rules

“All full and part-time graduate students will enroll each semester in CHEM 690, Research Seminar in Chemistry, except during the semester that the student is presenting their literature seminar or thesis/dissertation seminar, when they should register for CHEM 692, Chemistry Seminar Presentation.

Each degree-seeking student will be required to present a minimum of two seminars. The first will be a literature seminar, presented no later than the end of the fourth semester of residence. The second seminar will be a research seminar presented prior to the student's thesis/dissertation defense. Students in the chemical physics program will present one seminar in each department with the final seminar being presented in the department of the dissertation research project. The assignment of a literature seminar topic, the format of the abstract and a grade will be determined according to the rules of the seminar committee. A student whose presentation is unsatisfactory (a grade of "C" or less) will be required to give an additional seminar. Questions concerning material presented in seminars may appear on appropriate examinations. All full-time graduate students are required to attend departmental seminars.”

Department of Chemistry
Virginia Commonwealth University

MEMORANDUM

Date: _____

To: Seminar Chair

From: _____

Subject: Literature Seminar Title and Date Request

Once the seminar date has been assigned, the student may not cancel or delay the seminar without permission from the seminar committee. Abstracts are due to the seminar Chair two weeks prior to the seminar date.

Proposed Title:

(Attach short paragraph describing the scope of the topic, and pertinent references)

Proposed Dates: (consult with seminar chair or office staff first for available dates)

"This seminar topic is not related to my prior or current research or other research going on in my research group"

Signature

Faculty Advisor's Signature

Department of Chemistry
Virginia Commonwealth University

MEMORANDUM

Date: _____

To: Seminar Chair

From: _____

Subject: Research Seminar Title and Date Request

Once the seminar date has been assigned, the student may not cancel or delay the seminar without permission from the seminar committee. Abstracts are due to the seminar Chair two weeks prior to the seminar date.

Proposed Title:

Proposed Dates: (consult with seminar chair or office staff first for available dates)

Virginia Commonwealth University
Department of Chemistry

Presenter: _____

Evaluator: _____

Evaluate each item, circling the most appropriate term. Please provide comments where appropriate. Rankings are 1-5 with 1 being Poor and 5 being Excellent.

(40%) Organization (1 / 2 / 3 / 4 / 5)

Well-prepared slides
Clearly defined introduction
Appropriate depth
Strong conclusion
Comments:

(30%) Questions (1 / 2 / 3 / 4 / 5)

Management of Questions
Perceived Competence
Depth of Presentation
Comments:

(20%) Delivery (1 / 2 / 3 / 4 / 5)

Maintained Eye Contact
Appearance
Voice projection, rate, and clarity
Comments:

(10%) References (1 / 2 / 3 / 4 / 5)

Appropriateness of abstract
Use of references
Comments:

4. GRADUATE TEACHING ASSISTANT GUIDELINES

TEACHING PERFORMANCE AND RESPONSIBILITIES

GTA's teach courses under the direction of a faculty member. They are expected to follow the instructions of that faculty member in regard to conducting course sessions and grading. Students who are assigned to a recitation section and students who are assigned to upper level courses with reduced contact loads are expected to help the faculty member with the grading for the lecture portion of the course as part of their duties.

Graduate students in the Department of Chemistry are considered to be "junior faculty" and are expected to represent the Department in a professional manner. Since most graduate students have not been exposed to many of the situations and problems encountered in graduate school, particularly in teaching, some guidelines are given below.

- Meet all classes on time. If you are ill, it is your responsibility to find a qualified replacement for your teaching assignment (another graduate student in the program) and notify the professor in charge of the course of the situation. Never cancel a class without the permission of the professor in charge.
- Be prepared to answer questions and effectively present the class material assigned by the professor for whom you are teaching.
- If you are teaching a laboratory section, check the lab beforehand to ensure that all the needed chemicals and equipment are at hand. Make sure that the lab is clean, chemicals are put away and wastes are disposed of properly. Enforce all departmental safety rules, and obey them yourself.
- Grade and return all work promptly. Know and enforce the VCU Honor Code. Suspected cheating cases should be discussed immediately with the professor in charge of the course.
- Do not discuss students' grades with other students in the class or other graduate students. A student is entitled to privacy regarding their performance in a course. Do not post grades by name or full Social Security number. Do not return graded papers/quizzes/exams/lab reports by hanging them in an envelope on the door or wall.
- Do not discuss your opinion of a course, test or examination, laboratory, book, or professor with students. For example, the slightest hint that a test or examination was too long causes many more problems for the GTA than for the student.
- Demonstrate respect for your students as you would wish them to respect you. Never tell a student that they asked a dumb question or that if they were smart they would see the answer. Never get into an argument with or raise your voice to a student. If you have a problem with a student, discuss the problem with the professor in charge of the course. If you feel you see a problem such as lack of respect with another GTA or professor, discuss it with the Chair or the Graduate Director. Do not discuss such problems with people outside of the Department.
- Do not become personally involved with students in your classes. At this point in your career, you cannot be a "buddy" to the students. If you find yourself in a situation, in which you cannot impartially teach and grade a student, notify the Graduate Director immediately. Either your assignment will be changed or the student will be moved to another section.

Teaching performance is evaluated by the faculty member in charge of the course at the end of each semester. These evaluations are communicated to the Graduate Director, Research Advisor and student.

5. WASTE DISPOSAL PROCEDURES

WASTE DISPOSAL PROCEDURES

Department of Chemistry

I. Introduction

Virginia Commonwealth University, under the direction of the Office of Environmental Health and Safety (OEHS), has an established program to meet the University's and Hospital's chemical waste management needs. All work that uses chemicals eventually produces chemical wastes. Those generating this waste have moral and legal obligations to see that the waste is handled and disposed of in ways that minimize both short-term and long-term harm to health and the environment.

On November 19, 1980, the U.S. Environmental Protection Agency (EPA) put into effect federal regulations on a Hazardous Waste Management System, under the authority of the Resources Conservation and Recovery Act (RCRA) of 1976. These regulations are designed to establish a "cradle-to-grave" system for all sources generating hazardous wastes. This is where the legal obligations for hazardous waste began. Sections of RCRA provide for criminal penalties and citizen suits against individuals who violate hazardous waste regulations.

The OEHS staff is responsible for all waste disposals through outside contractors. They can also answer any questions about disposal procedures. They may be reached at 828-1392.

www.vcu.edu/oehs/chemical/chemwastemanagement.pdf

II. Waste Collection and Disposal Procedures

The procedures for disposal are simple, but if they are not followed, the cost of waste disposal will increase significantly. The funds for waste disposal come principally from overhead monies. Therefore, the more money that must be spent on waste disposal means less money available for graduate student support and return to the departments.

In the Department of Chemistry, the Stockroom Manager is the contact person for waste disposal and the stockroom is used as the collection point before being transported to another area. Several times each year a waste disposal company is contracted to pack and pick up all the waste containers. Any mistakes we make in labeling waste could result in a substantial increase of costs to VCU. Therefore, please follow the simple guidelines below.

1. Dispose of all broken or disposable glass in puncture proof containers. These boxes should be sealed, labeled "broken glass" and placed in the dumpster. Housekeeping will not pick up broken glass. If housekeeping staff injure themselves on broken glass, the liability could come back to the Department.
2. Syringe needles need to be disposed of in sharps/biohazard containers.
3. Biohazard waste is disposed in red bags with the Office of Environmental Health and Safety (828-7283).

4. All chemical waste must be placed in secure, properly labeled containers. Waste materials will only be accepted in properly sealed, disposable bottles or containers. Containers sealed with Parafilm, tape, etc..., will not be accepted. Waste containers will not be returned. Bottles and labels are available in the stockroom.

Each container of waste must be labeled with the following information:

- a. Contents (completely written out; no abbreviations).
- b. Percentage of contents, if possible.
- c. Name of investigator and telephone number.
- d. Date

The waste container should be brought to the stockroom for collection. Do not mix solid and liquid waste together. Try to separate flammable from non-flammable waste and chlorinated hydrocarbons from everything else.

5. GTA's in teaching labs are responsible for the students obeying the waste disposal rules. In particular, do not mix waste bottles from different labs.
6. All research labs should have chemical inventories and a chemical hygiene plan. You should be familiar with the location and content of these documents. Further information about lab safety can be found on the Office of Environmental Health and Safety (OEHS) website and on the OEHS Chemical and Biological Safety Section (CBSS) website.

Material Safety Data Sheets (MSDS) can be obtained on-line at

www.Sigma-Aldrich.com.

III. Chemical Spill Emergency Response

Report any spills of hazardous chemicals immediately by calling the RADIATION/CHEMICAL EMERGENCY LINE at 828-9834. Properly trained and protected personnel will come to evaluate and clean-up the spill. Never call housekeeping to handle situations that they are not properly trained to handle.

CHEMICAL WASTE DISPOSAL GUIDELINES

POST IN LAB

1. Stockroom personnel must approve all waste containers before waste may be left in the stockroom (Oliver Hall 3054).
2. Any unlabeled, unknown or improperly labeled waste left in the stockroom will result in disposal charges to that faculty member.
3. Beginning each semester, waste bottles should be labeled as described below for use for waste that semester.
4. Waste materials must be in properly sealed disposable bottles or containers with tops. Open containers or containers sealed with parafilm, tape, corks, etc. will not be accepted. Waste containers will not be returned.
5. LABELS: Each container of waste must be labeled with the following information:
 - (a) Contents (chemical names written out; no abbreviations or chemical structures)
 - (b) Approximate percentage of contents
 - (c) Name of faculty member / phone number
 - (d) Date

Labels are available in the stockroom (3054)

6. Direct any questions concerning the above information to Rinnie Brown at 828-7501 or e-mail hcbrown@vcu.edu.

6. GRADUATE STUDENT TRAVEL PROGRAM

Virginia Commonwealth University
Department of Chemistry

Graduate Student Travel Program

A program to assist graduate students in attending a scientific meeting (or meetings) during their career in the Department of Chemistry was initiated during the 1985-86 academic year.

In order to qualify for support, the following criteria must be met:

1. The student should be a full-time registered graduate student in either the M.S. or Ph.D. program. (Part-time graduate students may also be considered if travel support is not available from an employer.)
2. A maximum of \$400 will be available to a student during his/her entire graduate career. If a student completes an M.S. degree and then proceeds to a Ph.D. degree, he/she will not receive an additional \$400.
3. The student should be an author and the presenter of a paper (or poster) at the meeting (or meetings). The work to be presented must be related to the student's M.S. or Ph.D. research.
4. Approval for support must be obtained by completing the attached form prior to the submission of Travel Authorization forms.

Funds for support of this program will be available from the Kapp Estate bequest.

**REQUEST FOR TRAVEL FUNDS FROM
GRADUATE STUDENT TRAVEL PROGRAM**

Name _____ Date _____

Meeting _____

Dates of Meeting _____

Location of Meeting _____

Title of Paper _____

Authors _____

Type of Presentation (oral, poster, etc.) _____

Amount Requested (\$400 maximum during student's career) _____

APPROVAL

Research Advisor _____ Date _____
Signature

Graduate Director _____ Date _____
Signature

(This form must be submitted to the Graduate Director 4-6 weeks in advance of the meeting date.)

7. GRADUATE STUDENT ACADEMIC APPEAL PROCEDURE

GRADUATE STUDENT ACADEMIC APPEAL PROCEDURE

Graduate students in the College of Humanities and Sciences at Virginia Commonwealth University have a right to appeal actions of an academic nature. If such action involves a course grade, the Grade Review Procedures should be followed. If such action involves computing, the Computer Ethics Policy should be followed. If such action involves dishonesty, the VCU Honor Code should be followed. For actions not governed by these policies, the following procedures apply.

THE APPEAL PROCEDURE

Graduate programs in the College of Humanities and Sciences are responsible for notifying students, in writing, of any academic actions taken that involve an individual student and of the student's right of appeal as defined in this document.

If a student thinks that an academic action is the result of a breach of due process, the student should first discuss the matter with the individual(s) involved. The faculty member or other relevant University staff member will explain the basis of the academic action that has affected the student.

If the student seeks further explanation, he/she must submit a written appeal based on issues of due process to the chair of the department in which the student is enrolled within fifteen (15) academic working days of the notification of the academic action. This appeal must state the action being appealed and the reason for the appeal. Appeals submitted after this deadline will be reviewed only in exceptional cases as determined by the chair of the department. Within fifteen (15) academic working days of receipt of the student's written appeal, the chair of the department will conduct an investigation and will notify the student in writing of the decision. This document will describe the chair's investigation, adjudicate the dispute and notify the student of his/her right to appeal further.

If the student seeks still further (and final) inquiry, he/she must submit a request for final inquiry in writing to the chair of the department within five (5) academic working days of the receipt of the chair's decision. Upon receipt of this request, the chair is bound to forward to the Dean of the College three (3) documents within five (5) academic working days: the student's request for final inquiry, the Chair's decision-document and the student's appeal. The Dean and/or the Associate Dean for Graduate Studies will review the case to insure that the student's right of due process, both in the original dispute and in this appeal process, have been observed. A decision, which will be final and binding to all parties, will be provided in writing by the Dean or Associate Dean within fifteen (15) academic working days of receipt of the three documents.

SPECIAL PROVISIONS

If the action being appealed directly involves the chair of the department, the initial appeal by the student shall be made to the Dean of the College. In such a case, by request for final inquiry shall be made to the Vice President for Academic Affairs.

If the Dean or Associate Dean is directly involved, they will be considered as regular faculty members within their academic departments. If the Associate Dean is directly involved, the student's right of final inquiry will be to the Dean; if the Dean is directly involved, the student's right of final inquiry will be to the Vice President for Academic Affairs.

When unusual circumstances warrant, the Dean or Associate Dean shall have the authority to modify the time limits stipulated above.

Approved by the Graduate Academic
Committee, College of Humanities and
Sciences, to supersede earlier documents
6 April 1990

8. PROCEDURES FOR GRADUATION

Graduation Procedures

1. A student may receive their degree (graduate) in August, December or May. The official commencement ceremony is held twice each year, in May and December. The dates for these ceremonies are listed in the annual graduate bulletin. Each semester a date is posted for submission of a graduation application. For example to graduate in May, a student must submit their graduation application to their advisor in January. The student initiates the graduation checkout process online via E-services. Students must be enrolled for a minimum of 1 credit at the time of application/reapplication for graduation. See the following website for more details:

http://www.graduate.vcu.edu/pdfs/edWeb_Guidelines.pdf.

2. Graduation Application: The [Application to Graduate](#) can be found online. The student should complete the application, much of which is self-explanatory, and present it to their advisor for signature and submission to the Graduate Director. A few hints for completion of the application are given below.

List every course individually including research courses (CHEM 697) starting with the required lecture courses. Do not list CHEM 697 inclusively. Instead, list each entry on the transcript with the number of credits, grade and semester. Obviously, additional space will be required. Use a separate sheet of paper and note that Part I is continued on the separate sheet, but list the total credits on the original application.

To calculate your GPA, use only those credits for lecture courses. Do not include credits for research and seminar. Under VCU grade points, list the total grade points for your lecture courses (for each course, multiply the number of course credits times the quality points for the grade (A = 4, B = 3, C = 2)). Divide this number by the total lecture course credits and put this number in the space for GPA. Put an asterisk (*) next to each of these numbers and add a statement below this section which reads "*Does not include credits for research and seminar." Under the credits column, however, list all credits. The total credits required are, for an M.S., 27 (15 course + 12 research) plus 1 credit of seminar for each semester of residence, and for a Ph.D., 48 (18 course + 30 research) plus 1 credit of seminar for each semester of residence.

Approval Sheet (Part II of Graduation application). Section B, Preliminary review and approval must be signed by the advisor, graduate director and the Dean of the College of Humanities and Sciences and submitted to the graduation office by the required date (listed on the university calendar) each semester. You will receive a copy of this form with the three required signatures – keep this form because you will need to complete either section B or C at the end of the semester. If all requirements have been met, then Section C must be signed by the advisor, graduate director and the Dean of the College of Humanities

and Sciences. If the requirements have not been met by the end of the semester in which graduation application was submitted, then Section D must be completed, and submitted to the graduation office. Candidates who do not graduate at the end of the semester for which they have applied must reregister and reapply. The E-services checkout procedure will not allow you to proceed with reapplying for a graduation application unless Section D is completed. It is your responsibility to get all signatures and submit this form to the graduation office.

A date for the defense of the thesis or dissertation should be selected as early as possible and submitted to the Graduate Director. The last date for the defense of theses and dissertations for each semester is published in the annual graduate bulletin. The final copy of the thesis or dissertation must be uploaded to the [electronic thesis and dissertation website](#) and the final approval form must be submitted to the Dean's office with all signatures by this date. If these deadlines are not met, the graduation date will be postponed to the following semester. The rules regarding preparation of theses and dissertations are given at the following website:

<http://www.graduate.vcu.edu/community/thesis.html>.

Please note that there is a new approval form,

http://www.graduate.vcu.edu/pdfs/090730-01approval_form.pdf,

which is used in place of the old signature page, which is no longer required for theses or dissertations.