

2018-2019 GRADUATE STUDENT HANDBOOK



**DEPARTMENT OF CHEMISTRY
AND BIOCHEMISTRY
SAN DIEGO STATE UNIVERSITY**

TABLE OF CONTENTS

| | |
|--|----|
| I. Introduction..... | 3 |
| Residency | 3 |
| Tuition Waivers | 4 |
| Academic Standing | 4 |
| Stop-Out/Leave of Absence..... | 5 |
| Resources | 5 |
| Transfer Units..... | 5 |
| Awards and Additional Sources of Funding | 5 |
| II. Your First Year..... | 7 |
| Orientation Exams..... | 7 |
| Registration | 8 |
| Research | 8 |
| Teaching..... | 9 |
| III. The Graduate Bulletin is Your Friend..... | 10 |
| IV. Teaching Associate (TA) Positions | 11 |
| V. Coursework | 13 |
| 500-level Courses | 13 |
| 600-level Courses | 13 |
| 700-level Courses | 14 |
| Chem 790 and 791..... | 14 |
| Chem 792 | 14 |
| Chem 795 | 14 |
| Chem 797, 798, 799A/B | 14 |
| VI. The M.A. Degree..... | 16 |
| Classified Graduate Standing..... | 16 |
| Official Program of Study..... | 16 |
| Advancement to Candidacy..... | 16 |
| Final Exam Requirement..... | 17 |
| Graduation..... | 17 |
| VII. The M.S. Degree..... | 18 |
| Classified Graduate Standing..... | 18 |
| Official Program of Study..... | 19 |
| Advancement to Candidacy..... | 19 |
| Thesis Committee..... | 19 |
| Writing Your Thesis | 20 |
| Defense of Your Thesis..... | 20 |
| Submitting Your Thesis to the Division of Graduate Affairs | 21 |
| Graduation..... | 21 |
| VIII. The Ph.D. | 22 |
| APPENDIX A: CHEMISTRY STYLE SHEETS | 25 |
| Form..... | 25 |
| Style | 25 |
| Organization of the Table of Contents and Lists..... | 26 |
| Style for Bibliography and Footnotes in Chemistry Theses..... | 26 |
| APPENDIX B: CHEMISTRY DEPARTMENT FACULTY | 29 |

I. Introduction

Welcome to the Department of Chemistry and Biochemistry at San Diego State University! We hope you find your experience here exciting and rewarding, both personally and intellectually. Many people and resources are here to help you, and we encourage you to discuss any problems or questions you have with any of us.

| | | | |
|--------------------|-------------------------------|-----------|----------|
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Most of the information presented in this handbook is here for your convenience. We realize that there is a lot of information circulating from various sources, which can be overwhelming. What is important to note is **the original source will *always* supersede anything contained in this handbook. You are responsible for knowing the information referred to in the *original* document/source.** Much of the information is found in <http://arweb.sdsu.edu/es/catalog/bulletin/> or from the Graduate Affaires <http://gra.sdsu.edu/grad/index.html>. Our intention here is to highlight the information that we consider most important for new and continuing students in order to best guide them to the appropriate sources. If you have questions regarding anything in this handbook please contact Dr. Cole, Dr. Grotjahn or Jeanette for further clarification.

Residency

All issues regarding your residency status are handled by the Office of the Registrar. If you are determined by the university to be a non-resident of the state of California, you will be required to pay tuition (tuition may be waived for certain qualifying students—see section entitled “Tuition Waivers”). All students, both resident and non-resident, are required to pay registration fees, which unfortunately, are often referred to erroneously as “tuition” by students and staff. Fees are at a flat rate (there are two rates, one for students enrolled in 0 - 6.0 units, another for students enrolled in 6.1 or more units); tuition is charged on a per-unit basis. You can find up-to-date information on these rates in the current class schedule, on the Cashier’s Office website, or through your Web Portal account.

The Office of the Registrar’s website states:

Proof of residence requires evidence of both physical presence and intent to remain indefinitely in California at least one year before the residence determination date. In addition, other rules and exceptions apply.

It is your responsibility to notify the Legal Residency Office in the Office of the Registrar of any changes in residency status. This includes status changes from non-resident to resident and from resident to non-resident.

If you plan on petitioning for residency reclassification, it is very important that you do as much as possible upon arrival to establish your residency. Refer to the Office of Registrar Residency Information, <http://arweb.sdsu.edu/es/registrar/residency.html>. The process to obtain the necessary documentation is comprehensive and requires your attention and time to successfully change your status to a California resident. It is essential that you begin this process early and understand what needs to be done to change your status to a California Resident. The determination date for residency status for fall semesters is September 20, and for spring semesters is January 25. That means that anything you plan to use for your supporting documentation should be done prior to that date in the year you *arrive* here (for example, you should get a California driver's license before September 20, if you plan to petition for residency reclassification). Please refer to it or contact the Office of the Registrar regarding residency information, <http://arweb.sdsu.edu/es/registrar/residency.html>.

Tuition Waivers

A waiver for non-resident tuition, awarded by Graduate Affairs for qualifying students, may accompany the offer of a Teaching Associate (TA) position by the department. The California State University has mandated that a minimum GPA of 3.0 is required, and the student must be working for the University for 20 hours/week, either as a TA or Graduate Assistant (GA). Domestic out-of-state (non-residents) and international master students have a maximum eligible limit of 5 semesters, with no extensions. Doctoral students are eligible for 10 semesters. US non-California residents should be able to establish California residency, if they begin the application process on arrive at SDSU. Recipients must be making satisfactory timely progress towards their degree and maintain their eligibility criteria (i.e., GPA and appropriate progress on your program of study, POS) in order to continue receiving the waiver. The process is not automatic; the department must submit nominations to the Graduate Affairs each semester for tuition waivers. *Graduate Affairs will not reject nominations for students who do not meet eligibility criteria.*

Academic Standing

As previously stated, a GPA of 3.0 is required for TAships and tuition waivers. However, in regards to academic standing, students must maintain a 2.85 GPA in all coursework taken after being admitted to the program. Failure to do so will result in the student being placed on academic probation, and, if a student does not meet the requirements for removal from probationary status within the specified timeframe, they may be disqualified from the university. There are also terms under which a student may be placed on administrative academic probation, such as failure to progress toward the stated degree. For a Master of Science or Master of Arts degree, a 3.0 GPA must be maintained for all courses listed in the official degree program, *and* in all 300-level and above courses taken since beginning the graduate program, including transfer courses. No course graded below a "C" may be used towards an advanced degree. Students have the responsibility of maintaining satisfactory academic progress and should be aware of the consequences should they be unable to do so. For additional information on probation and disqualification, refer to page 66

of the 2018/2019 Graduate Bulletin, and for additional information on GPA requirements, refer to page 63-66.

Leave of Absence

If you find it necessary to take time off from your studies, but would like to maintain your status as a continuing student (i.e., you do not want to have to reapply to return to the program), you should be aware of University policy. You can petition for a one-semester leave of absence for personal, educational, military or employment reasons. This form is available on your web portal page, <http://www.sdsu.edu/portal>. You must apply at the beginning of the particular semester that you wish to be absence and be in good academic standing. Approval for the Chemistry Graduate Advisor and Dean of Graduate Affairs is required. One can take up to a total of 4 semesters of approved leave of absences, but they must submit a leave for each semester. For more information see <http://arweb.sdsu.edu/es/registrar/leave.html>. Leaves will not be granted to disqualified or students who have specific registration holds. See page 66 in the 2018/2019 Graduate Bulletin.

Resources

The University offers students numerous resources, including the Student Computing Center at Love Library, study areas in the library, wireless internet access, free computer software training, and free email and web accounts, most of which will probably be discussed during the Graduate Student Orientation sponsored by the Graduate Affairs. In addition, the Chemistry Department has a student computer lab, GMCS 245, which contains a number of Mac and PC computers. These computers access programs for word processing, EXCEL, MAPLE, Gaussian and some other programs. These computers require an account set up by the College of Sciences computer center (SCEC). You are probably already familiar with the department web site, <http://www.chemistry.sdsu.edu>, which also includes a lot of useful information.

Transfer Units

Up to 9 units of transfer credit from graduate courses taken at other universities can be applied to the master's degree (upon approval by the Graduate Advisor and the university), including coursework taken through SDSU's College of Extended Studies Open University program prior to admission into the graduate program. Some of our students take courses at UCSD. Since they are on a quarter system, each 4 units taken at UCSD transfer as 2 units to SDSU. These are transferred when you submit your program of study. These courses are transferred when you submit your program of study.

Awards and Additional Sources of Funding

There are a variety of opportunities available for awards and additional funding. General information regarding financial aid and scholarships is found in the 2018-2019 Graduate Bulleting on pages 42-43. Also visit the following sites:

[https://studentaffairs.sdsu.edu/faodad/webss\\$scholarshipSearch?p_major=388&p_group=U](https://studentaffairs.sdsu.edu/faodad/webss$scholarshipSearch?p_major=388&p_group=U)

Graduate Affairs: http://grad.sdsu.edu/funding/funding_opportunities

There are several funding programs:
CSU Chancellor's Doctoral Incentive Program (C-DIP)
Sally Casanova Pre-Doctoral Scholarship for Master's student interested in obtaining research doctorates
Graduate Equity Fellowship, for California Master's students with financial need
Graduate Student Travel Funds, both Student Success Fee and Associate Student Funding

There is a longer list of additional fellowship program at this site.

American Chemical Society
Grants, Fellowships and Awards, list of important award information:
<https://www.acs.org/content/acs/en/education/students/graduate/scholarships.html>

Women Chemists Committee/Eli Lilly Travel Award:
<https://www.acs.org/content/acs/en/funding-and-awards/awards/other/travel/wcctravelaward.html>

Merck Research Award for female graduate students:
https://www.acs.org/content/acs/en/funding-and-awards/awards/other/travel/wcctravelaward/Merck_Research_Award.html

Financial Aid Homepage for graduate students:
http://go.sdsu.edu/student_affairs/financialaid/sdsuscholarshipshowtosearch.aspx
Search for Chemistry and Graduate to find scholarships
ARCS

Department of Chemistry & Biochemistry:
Jivan and S.C. Tong Endowed Fellowship
Department of Chemistry MS and PhD Annual Research Award
Department of Chemistry MS and PhD Annual TA Award
University Graduate Fellowship (PI nomination)
Presidential Award Student Research Symposium
http://research.sdsu.edu/research_affairs/student_research_symposium

CSUPERB
(<https://www2.calstate.edu/impact-of-the-csu/research/csuperb/Pages/grants-and-awards-programs.aspx>) The following are available for graduate students:
Don Eden Graduate Student Research Award
Doris A. Howell Foundation – CSUPERB Research Scholar Program
Student Travel Grant Program

II. Your First Year

During your first semester you will be taking classes and, if you are an M.S. student, choosing a research advisor. If you have a Teaching Associate (TA) position and have had no experience in teaching, it is unwise to try to take more than six units of coursework (usually two courses). You will find that two courses, along with teaching three lab sections, will keep you busy. If you are not teaching and do not have other time-consuming responsibilities, you can probably handle more than two courses, but be very careful to not overextend yourself the first semester. This is especially important with regard to your GPA.

Orientation Exams

Five orientation exams, covering the five major areas of chemistry (analytical, biochemistry, inorganic, organic, and physical) are given just before the Fall and Spring semesters each year. The best way to study for any of these exams is to review your undergraduate course material. The purpose of the orientation exams is to ensure that the student has a fundamental background in most areas of chemistry. Without such a background, a student may not be prepared to take certain specialized 700 level courses. For example, it is expected that only students with a strong background in organic chemistry will be taking Chem 730, Advanced Topics in Organic Chemistry.

M.A. students must pass 4 out of 5 of the exams, two of which must be organic and physical chemistry. These exams cover material found in typical undergraduate courses. One exam must be passed at the 40th percentile level, one at the 45th percentile level and two at the 50th percentile level or higher. If the student does not pass a particular exam, he/she must take an approved course to fulfill this requirement. In order to be given credit for passing an exam, the student must make at least a B grade in the approved course.

M.S. students must pass 3 out of 5 of the exams at the 50th percentile level, one of which must be in the student's area of interest. In order to be given credit for passing an exam, the student must make at least a B grade in the approved course.

Approved courses for orientation exams:

| | |
|--------------|--|
| Analytical | 550, 750, 751, 752 and 753 |
| Biochemistry | 560, 562, 563, 564, 761, 763 and 765 |
| Inorganic | 520A or 520B |
| Organic | 432, 531, 538 and 730 |
| Physical | 410A or 410B, 510, 711, 712, 713 and 714 |

Registration

The university assigns registration dates based on priority status and makes this information available to you through your Web Portal account, which you will also use to register. For your first

semester, we ask that you do not register for classes right away. Since the demand for upper-level chemistry courses is not very high, this shouldn't create any problems, and you don't need to worry about classes filling up. We would like you to wait until after taking your orientation exams and meeting with the Graduate Advisor during orientation. After you have joined a research group, you will be asked to submit a preliminary program of study to the graduate advisor for review. This projected program of study is drafted by you and your research advisor and will serve as a guideline for your future classes. However, you may make changes in your classes, up until you file your official Program of Study. If you are unsure about what courses to register for, you should always discuss this with your research advisor and/or the Graduate Advisor.

The class schedule is not printed. It can be accessed online at <https://sunspot.sdsu.edu/schedule/search> or through your Web Portal account. It is a good idea to check the class schedule for changes (such as location) as it gets closer to the beginning of the semester. A few days before the first day of classes the registration system is taken offline, but it is brought back up on the first day of classes. Student may make changes in their classes during the Schedule Adjustment Period. You may drop within the first ten days of the semester, by 11:59 PM. The deadline to add a class, change a grading basis or withdraw from the university is at 11:59 PM also on the 10th day of the semester. The deadline for the end of this period is available in the class schedule, through your Web Portal account (on the My Registration page), and on the current academic calendar, which can be found in the General Catalog/Graduate Bulletin online through the SDSU website. If you want to add a class after the first day of classes, you can add classes up to the fifth day of the semester, after that the faculty control increasing the number of seats in a class. You can add and drop courses quite easily using your Web Portal account up to the end of the schedule adjustment period, so if you change your mind after registering, that is not a problem. However, changing your courses after the schedule adjustment period is fairly difficult, and involves an appeal with supporting documentation submitted to the Office of the Registrar.

Research

New M.S. students need to find a faculty research advisor by the beginning of October in your first semester. You will hear short faculty research talks in Chem 695 and you will be asked to interview all faculty in your area(s) of research interest. You may wish to begin soon after you arrive at SDSU. A "Faculty Interview Form" will be given to you in Chem 695. It is wise to give yourself time to carefully consider your decision. Although you are always free to change research groups at any time, the time you spend on a thesis project in one research group may not transfer over to a new project. Talk with not only the faculty but also their students. Get as much information as you need to make a decision that's right for you.

We expect you to choose a research advisor by early October. You should talk in detail with your research advisor about your research project, design a preliminary (non-binding) program of study and get keys and card access to your laboratory. An official program of study will be required later in your third semester of study. Students are advised to start their research project as soon as they join a group in October. A progress report is due by June 1. Following this schedule, you will be in a position to work extensively and full-time on your research project during the next summer.

Teaching

A full-time TA (considered a half-time employee by Human Resources) usually teaches a total of three lab periods per semester, each 2 hours and 40 minutes long. However, because the demand for courses varies between the Fall and Spring semesters, the department is often in the position of having to offer more lower-division courses in the Fall than in the Spring. Occasionally, we are unable to offer everyone full-time TA positions for the Spring semester due to this difference.

Since the majority of the lab sections are devoted to Chem 100, 102, 200 or 201, general chemistry, it is likely that you will teach one of these classes. TAs may either be assigned three lab periods or will run three discussion sections. In some instances grading duties replace some of the lab teaching. Weekly TA meetings occur on Fridays, because there are no lab sections that day. These meetings are mandatory, and the lab coordinator uses this time to discuss what will be going on during the week. As a first-time TA you may find that teaching takes up a lot of time due to the preparation required, but as you become more experienced, the preparation takes less of your time.

TA positions are considered to be a type of financial aid and first priority for these positions is given to those students who are actively involved in research in the Chemistry Department; this usually includes all students working toward the M.S. or Ph.D. degree. Also, TA positions are granted to students who do not have outside jobs (including the summer). Finally, TA positions are contingent on the student making progress towards their degree in terms of both course work and research, while maintaining a GPA of 3.0 or higher.

III. The Graduate Bulletin is Your Friend

The closest thing to a legally binding document related to your degree is the Graduate Bulletin of the Division of Graduate Affairs. Many questions you might have can be answered by referring to the Graduate Bulletin. *You are responsible for the information contained in the bulletin.* The department does what it can to make you aware of key points, but ultimately, the future of your academic career is up to you, so be sure to read all parts relevant to your degree goal. A copy of the Bulletin can be viewed online at <http://arweb.sdsu.edu/es/catalog/bulletin>. The department's Graduate Student Handbook, which you are now reading, highlights some of the more important information relevant to graduate students in chemistry and also includes information on some requirements, such as the orientation/qualifier exams, which are not described in the Bulletin.

A few points which you should keep in mind related to the Graduate Bulletin:

- The Graduate Bulletin is intended for graduate students. A similar publication, General Catalog, is primarily intended for undergraduate students, but there is information in that publication which is relevant to graduate students as well.
- From page 58 of the 2018/2019 Graduate Bulletin: “Students are individually responsible for the information contained in this bulletin. Although the Division of Graduate Affairs attempts to preserve requirements for students subject to this bulletin, information contained herein is subject to change from year to year as university rules, policies, and curricula change. Failure to keep informed of such annual changes will not exempt students from whatever consequences may result.”
- Which Graduate Bulletin should you follow? In general, you should follow the version of the Graduate Bulletin for 2018-2019. However, the requirements governing your “Official Program for the Master’s Degree” will be those specified in the Graduate Bulletin which is in effect at the time your program of study was approved by the Division of Graduate Affairs.

If you have any questions regarding academic requirements, the office of Graduate Affairs makes the ultimate decision.

IV. Teaching Associate (TA) Positions

The M.S. program requires students to conduct a considerable amount of research. In order to finish the degree in a timely manner, a full-time research commitment is required in the summer and during the winter session. Since this prevents a student from using the summer for outside employment, TA positions are offered first to M.S. students who do not have outside jobs and who work full-time on their research when classes are not in session. M.A. students are *normally* not given TA appointments, but exceptions are made when it appears to be in the best interest of the department to do so.

The required qualifications for appointment of a teaching associate are stated in the application form:

A Teaching Associate or Graduate Assistant at San Diego State University must be admitted to the University by the Office of Admissions, be advanced to classified graduate standing during within 12 months of entering the graduate program, register each semester for at least six units of graduate courses in their degree program, and comply with policy and standards in the Graduate Bulletin. Failure to comply with these academic requirements or to perform teaching assignments satisfactorily will be sufficient cause for the termination of appointment. A Teaching Associate or Graduate Assistant must pay established services, facilities or materials fees, and, if a non-resident, tuition fees each semester. It is understood that a Teaching Associate or Graduate Assistant is primarily a student who is pursuing an education. Services rendered as an Associate or Assistant are secondary to the main education objective of the student.

The policy and standards are outlined on page 8 of the 2018/2019 Graduate Bulletin. The student should refer to the Graduate Bulletin for details but note in particular the following:

Reappointment or continuation of an appointment is dependent upon satisfactory performance in graduate studies (as prescribed by the Division of Graduate Affairs), departmental need, and satisfactory completion of assigned duties. Information concerning an appointment as a graduate assistant may be obtained from the head of the department, school, or college in which the applicant wishes to obtain the advanced degree.

Graduate Affairs also has a TA Handbook which details the policies and responsibilities associated with a TA position. The handbook is available through the Graduate Affairs website, http://grad.sdsu.edu/current_grad_students/handbooks_and_links.

A TA appointment that covers the academic year is paid out over a twelve-month period, even though you will only be teaching during the fall and spring semesters. Full-time TAs (half-time employees of the university) with academic-year appointments are eligible for certain benefits. However, there are very specific conditions associated with this position in regards to benefits.

Please contact Human Resources for more information—the department staff is not kept up-to-date on the regulations or policies and is not qualified to advise you on these matters. TAs are part of Collective Bargaining Unit 11, which is represented by the Union of Academic Student Employees at the California State University (UAW Local 4123). For more information refer to the SDSU Human Resources website at <https://www2.calstate.edu/csu-system/faculty-staff/labor-and-employee-relations/Pages/unit11-uaw.aspx>. The UAW Local 4123 website is at <http://www.uaw4123.org>.

The Graduate Committee of the Department of Chemistry and Biochemistry conducts a Graduate Student Review every year to monitor the progress of students. Renewal of Teaching Associate appointments will be subject to this review. The following criteria will be used in considering renewal:

1. Satisfactory performance of teaching assignments. The committee will request an evaluation from each of the course coordinators; student evaluations may also be considered.
2. Satisfactory progress in course work. A 3.0 average must be maintained and six units of graduate course credit must be completed each semester until all coursework requirements have been satisfied.
3. Satisfactory progress in research. The committee may request an evaluation from each student's research advisor based partially on a research summary written by the student. Note that we expect all students with TA positions to be working full-time on their research projects during the summer.

First-year graduate students will be reviewed at the end of the spring academic semester, no later than June 15. The Graduate Advisor, with the advice of the Graduate Committee, will recommend to the department chairman either an academic year reappointment, a probationary single-semester reappointment, or no reappointment.

Second- and subsequent-year students also will be reviewed during each academic year no later than June 15. The committee will recommend an academic year reappointment, a probationary single-semester reappointment, or no renewal of the Teaching Associate appointment. If the committee recommends that a student's appointment not be renewed, the student may still receive a Teaching Associate position if the total department allotment is unfilled, if he/she makes a formal written request, and if previous teaching performance has been satisfactory.

Failure to follow SDSU (http://grad.sdsu.edu/current_grad_students/handbooks_and_links) or Departmental Safety policies will result in the following warning:

First, a verbal notification will be discussed along with corrective needed actions.

Second, a written notification will be sent to you, detailing problems and necessary actions.

Third, written notification of violation(s) will be sent to your research advisor, graduate committee and departmental chair. Your status will be reviewed at the end of the contract.

Serious violations are likely to result in your TA contract not being renewed the following year. In some cases this lead to an immediate termination of your contract.

V. Coursework

Most 500 and 700 level courses in the Chemistry Department can be taken to satisfy the 30-unit coursework requirement. Six units of coursework taken outside the Department can be used but you must obtain written approval from the Graduate Advisor. Generally 500, 600 or 700 level courses in Math, Physics, Molecular Biology or Biology are allowed if part of your program of study and research plans. Courses in other departments may also be approved but you must first obtain a syllabus from the instructor before the course can be considered. Always check first!

There are a few courses listed as Chemistry courses that are part of the Regulatory Affairs Program. These courses are not applicable toward the M.A. or M.S. degree in chemistry:

| | |
|----------|--|
| Chem 573 | The Pharmaceutical, Biotechnology and Medical Device Industry |
| Chem 575 | Introduction to Food and Drug Law |
| Chem 770 | Current Good Manufacturing Practice for Drugs and Biologics I |
| Chem 771 | Current Good Manufacturing Practice for Drugs and Biologics II |
| Chem 772 | FDA Advertising, Promotion and Labeling |
| Chem 773 | Medical Device Regulations |

500-level Courses

Courses numbered 5XX are advanced undergraduate courses. Some of these courses are not open to graduate students. They are required to enroll in the corresponding 7XX courses. Those classes not explicitly limited to undergraduate students can be taken by Master's students for their degree. Up to 15 units of 500-level courses can be used. The next number after the 5 has some meaning—it designates the particular division with which the course is associated:

- 51X—Physical Chemistry
- 52X—Inorganic Chemistry
- 53X—Organic Chemistry
- 55X—Analytical Chemistry
- 56X—Biochemistry

600-level Courses

695—Introduction to Graduate Education in Chemistry (2 units). This course is available only to M.S. students. Chem 695 provides in-depth training regarding laboratory safety, teaching a laboratory course and ethics in the areas of teaching and research. Also covered is an introduction to research at SDSU along with techniques for literature searching and communicating chemically based information. Chem 695 is a five-week intense course that begins the week before the first day of classes in the Fall semester.

700-level Courses

Courses numbered 7xx are graduate courses and can only be taken by undergraduate students upon approval by the Division of Graduate Affairs. At least 15 units of 600 or 700-level courses must be used toward the Master's degree. The next number after the 7 has the same meaning as for the 500-level courses.

Chem 790 and 791

Chem 790 and Chem 791 are both seminar courses given by the student. Chem 790 is required for both M.A. and M.S. students. M.S. students are also required to take Chem 791. These classes should be completed during the second year of study.

All students are required to give a Chem 790 literature seminar to students and faculty as the audience. The instructor will have further details about the expectations for the seminar. Up to six units may be used toward the M.A. or M.S. degree.

Chem 791 is a student research progress report and proposed plan of study. It too is presented to students and faculty as the audience. This is a requirement for all MS students. The instructor will have further details about the expectations for the seminar. This class is not available of M.A. students. It is a good idea to invite potential members of your committee to your research presentation, especially those in the department.

Chem 792

Chem 792 (Bibliography) is a one-unit course designed to allow students to work on library research for their thesis. Although the listed instructor is usually the current Graduate Advisor, each individual research advisor is responsible for setting the requirements and submitting a grade for his/her research students. This course is required for the M.S. degree.

Chem 795

Chem 795 (Seminar) is a one-unit Departmental seminar available to all classified graduate-standing students. A maximum of three units are applicable to the master's or Ph.D. degrees. Recommended for all fields of chemistry.

Chem 797, 798, 799A/B

Chem 797 (Research) is a Credit/No Credit class. Up to six units can be used for the M.S. degree. Additional units beyond this cannot be used for the degree. Generally, students register for Chem 797 when no needed graduate courses are available, increasing the course load to six units. The majority of Chem 797 units are taken during their last year of study after most graded classes have been taken. This option is usually not available to M.A. students. M.A. students who wish to do short research projects are encouraged to take Chem 798 (Special Study). Occasionally a M.S. student who has taken Chem 797 units will change to the M.A. degree option. For such students, up to three units of Chem 797 can be used toward the degree, but only if a final report is written on the research.

Chem 798 (Special Study) is taken by M.A. students who wish to do a short research project under a faculty advisor. Generally, a final research report is expected.

Chem 799A (Thesis) is taken only by M.S. students. It is also not available to M.A. students. Only after a student has their Thesis Committee approved by the Division of Graduate Affairs will they be allowed to register for this course. A student must be enrolled in Chem 799A or Chem 799B when their thesis is submitted to Montezuma publishing.

Chem 799B (Thesis Extension) is taken by students who have enrolled in Chem 799A previously and have not yet submitted their thesis. A student must be enrolled in Chem 799A or Chem 799B when his/her thesis is submitted. Generally students will register for Chem 799B through Open University (<https://ces.sdsu.edu/open-university-registration>), if they are not registering for any other courses that term. This is a less expensive option. However, check financial aid office first to see if this is an option. Chem 799B is considered to be half time with regards to financial aid. Chem 799B is a zero unit course, but has a 1 unit course fee. Do not register for more than 5 units of other courses, otherwise your fees will significantly increase.

Note: A total maximum of nine units of Credit/No Credit coursework can be applied to the Master's degree. M.S. students are required to take three units of Chem 799A (Cr/NC) which counts toward the nine unit limit.

VI. The M.A. Degree

The following is a general outline of the requirements for a Master of Arts degree. There are several other documents to which you should refer for more detailed information—make sure you become familiar with the specific requirements for each step of the degree process. Besides the Graduate Bulletin, the Division of Graduate Affairs lists the “Procedural Steps Toward Earning a Master’s Degree” on their website. Read this so that you are aware of the university procedures. Additionally, the department website has handouts which are more specific to students in the Department of Chemistry and Biochemistry, at <http://www.chemistry.sdsu.edu/forms/>. If you have questions at any point in your studies here, please talk to the Graduate Advisor. It may be a cliché, but it is truly better to be safe than sorry.

Classified Graduate Standing

There are several categories under which a student may be admitted to the university. The majority of chemistry students are admitted with conditionally classified graduate standing. In order to change status from conditionally classified to classified graduate standing, students must satisfy the conditions stated on admission. These conditions may differ from one student to another (i.e., a specific course may be required), but all M.A. students must pass 4 out of 5 of the orientation/qualifier exams, as stated in the Orientation Exams section of this handbook. This requirement must be fulfilled within 12 months of starting the program. If necessary, you may submit a petition of extension with approval of the graduate advisor. When you feel that you have fulfilled the requirements for classified standing, you can contact the Graduate Advisor so that the Change of Status form can be filled out and submitted to the Graduate Division. However, the Graduate Advisor will usually do this without being contacted. Students must attain classified graduate standing before moving on to the next step, which is submitting an official program of study.

Official Program of Study

After you have attained classified graduate standing and have completed 12 units of graduate classes, you can submit an official program of study. This form lists all the courses you have taken, or will take, as credit toward the master’s degree. After approval by the Graduate Advisor, the program of study is submitted to the Graduate Division. Generally this is done in the middle of your third semester of study. However, you may wish to submit your program of study early in order to take exchange classes at UCSD. *You cannot submit other paperwork towards graduation until you have been advanced to candidacy and you will not be advanced until the program of study is submitted.* If your program of study differs from the requirements listed in the Graduate Bulletin, a Petition for Adjustment of Academic Requirements must be submitted along with the program of study. The petition must be approved by the Graduate Advisor and the Dean of Graduate Affairs. Once a program of study has been approved, you can only make changes by submitting a Request for Change in Official Program form.

Advancement to Candidacy

After you have submitted a program of study and been recommended by the Graduate Advisor, the Graduate Division will advance you to candidacy. Your program of study GPA must be a 3.0 or higher to be advanced. This means you are officially considered a candidate for the master's degree. You must be advanced to candidacy before you can complete the final exam requirement. Unlike the above two steps which are initiated by the student or the Graduate Advisor, this step is initiated by the Graduate Division. You do not need to get involved unless there is a problem that cannot be resolved by the Graduate Advisor.

Final Exam Requirement

The Master of Arts degree is offered under Plan B, the non-thesis option, which requires a written comprehensive examination. In the Department of Chemistry and Biochemistry program, this requirement is satisfied by a final report. The structure of this report can vary but at the present time, the department requires students to write a paper on a current topic in chemistry. The topic of the paper must be approved by the Graduate Advisor, even if it is written under the direction of another member of the faculty. More details on the final exam requirement are described on the "Earning a MA Degree in Chemistry" handout available on the department web site at <http://www.chemistry.sdsu.edu/forms/>.

Graduation

Possibly the most confusing step of the process is graduation. First of all, you should be aware that *graduation is not an automatic process*. You may complete your degree requirements, but you will not be awarded a degree, nor can you participate in commencement ceremonies, unless you have applied for graduation *within the required timeframe*. Graduate Affairs does not accept late applications. The current application deadline can be found on the Academic Calendar of the most recent Graduate Bulletin or on the Graduate Division website. It is your responsibility to apply for graduation.

Because the application is often submitted in advance of when the degree requirements are actually completed, it is possible to apply for graduation, participate in the commencement ceremony, and not meet the requirements for the degree, which means no degree will be granted. *The ceremony and the awarding of the degree are not the same thing*. Just as completing the requirements without applying will not allow you to graduate or participate in commencement, do not assume that because you have walked, you have a degree. The degree is usually posted several weeks after the end of the term in which you are graduating (most students know whether or not they have met the requirements, so it is very rarely a surprise). These are all things you must keep in mind as you work towards your degree, even if that seems quite far off at the present time.

The university holds one commencement ceremony each year, in May. Graduate students who receive a degree in the summer session of the previous academic year, or the fall session of the current academic year, or expect to complete their degree requirements in the spring are eligible to participate in that year's commencement ceremony.

VII. The M.S. Degree

In the Department of Chemistry we feel that we maintain quite high standards, especially for thesis research towards the M.S. degree. Graduate research cannot be completed in an acceptable length of time if treated as a normal 40-hour/week job. You must be willing to work very hard or work quite long hours. In particular, you must use the time between semesters, and especially the summers, to work on research as intensively as possible. It is probably no coincidence that one of the most common complaints of professors is that their students do not take their research as seriously as they should and that one of the most common complaints of students is that it has taken longer to get their degree than they expected!

Your work towards the M.S. degree will probably go more smoothly if you communicate often and honestly with your research supervisor. Good communication can avoid a lot of wasted effort. However, don't just expect to be guided by your supervisor at every step. One thing that we expect you to learn in doing research towards an M.S. degree is how to become independent. Be creative and try to devise your own solutions to problems. However, check your ideas with your supervisor on a regular basis. This paragraph will probably seem to have contradictory statements—we realize that there is a delicate balance in getting proper supervision and in learning to work independently and in being creative!

This section contains a general outline of the requirements for a Master of Science degree. There are several other documents that you should refer to for more detailed information—make sure you become familiar with the specific requirements for each step of the degree process. Besides the Graduate Bulletin, the Graduate Division lists the “Procedural Steps Toward Earning a Master’s Degree” on their website. Read this so that you are aware of the university procedures. Additionally, the department website has handouts which are more specific to students in the Department of Chemistry and Biochemistry, <http://www.chemistry.sdsu.edu/forms/>. If you have questions at any point in your studies here, please talk to your research advisor and/or the Graduate Advisor.

Classified Graduate Standing

There are several categories under which a student may be admitted to the university. Most all chemistry students are admitted to the Department with conditionally classified graduate standing. In order to change status from conditionally classified to classified graduate standing, students must satisfy the conditions stated on admission. These conditions may differ from one student to another (i.e., a specific course may be required), but all M.S. students must pass 3 out of 5 of the orientation/qualifier exams, as stated in the Orientation Exams section of this handbook. This requirement must be fulfilled within 12 months of starting the program. If necessary, you may submit a petition of extension to meet this requirement with the graduate advisor. When you feel that you have fulfilled the requirements for classified standing, you can contact the Graduate Advisor so that the Change of Status form can be filled out and submitted to the Graduate Division. However, the Graduate Advisor will usually do this without being contacted. Students

must attain classified graduate standing before moving on to the next step, which is submitting an official program of study.

Official Program of Study

After you have attained classified graduate standing and have completed 12 units of graduate classes, you can submit an official program of study. This form lists all the courses you have taken, or will take, as credit toward the master's degree. Your research advisor will work with you on planning your program of study. After approval by the Graduate Advisor, the program of study is submitted to the Graduate Division. Generally this is done in the middle of your third semester of study. However, you may wish to submit your program of study early in order to take exchange classes at UCSD that must be part of your program of study. *You cannot submit other paperwork towards graduation until you have been advanced to candidacy and you will not be advanced until the program of study is submitted.* If your program of study differs from the requirements listed in the Graduate Bulletin, a Petition for Adjustment of Academic Requirements must be submitted along with the program of study. The petition must be approved by the Graduate Advisor and the Dean of Graduate Affairs. Once a program of study has been approved, you can only make changes by submitting a Request for Change in Official Program form.

Advancement to Candidacy

After you have submitted a program of study and been recommended by the Graduate Advisor, the Graduate Division will advance you to candidacy. Your program of study GPA must be a 3.0 or higher to be advanced. This means you are officially considered a candidate for the master's degree. You must be advanced to candidacy before you can submit your Appointment of Thesis/Project Committee, register for Chem 799 or submit your thesis for review. Unlike the above two steps which are initiated by the student or the Graduate Advisor, this step is initiated by the Graduate Division. You do not need to get involved unless there is a problem that cannot be resolved by the Graduate Advisor.

Thesis Committee

When your thesis is close to being completed, and after you have been advanced to candidacy, you will need to select your thesis committee membership. The Graduate Advisor and Graduate Affairs must approve the thesis committee before you can register for Chem 799A. The committee consists of three faculty members, two within the Department of Chemistry and Biochemistry and one outside of chemistry. Additional non-faculty supervisors and faculty outside of the university can be added as additional members of your committee with approval of the Chemistry Department Chair. Usually, the student's research advisor is the chair of the committee. Prior to this stage, you should have an idea of potential committee members and had invited them to your Chem 791 seminar.

The "Appointment of Thesis Committee Form" can be obtained from the Graduate Affairs. *The Thesis Committee form is only available after the student has been advanced to candidacy, and only after the thesis committee form is approved can a student register for Chem 799A.* You can enroll in Chem 799A during the normal registration period each semester. Please note, you **must** be registered in Chem 799A or 799B when you submit your thesis to Montezuma Publishing.

Writing Your Thesis

Before you begin to write your thesis, buy a copy of the “SDSU Master’s Thesis and Project Manual” available at the SDSU Bookstore. The style manual you should use is by Slade, and there are an additional two pages of departmental instructions that are given in Appendix A of this handbook. Using the thesis template can make writing much easier, because used properly; the template helps formatting the document.

Defense of Your Thesis

One of the last steps in obtaining an M.S. degree is passing an oral exam on the thesis, referred to as a defense of thesis. The following guidelines were approved by the Department of Chemistry and Biochemistry for conducting an oral defense of thesis. Some slight deviations may occur, depending on the circumstances, but if you are not comfortable with any proposed deviations, you should speak with your Thesis Chair (research advisor) about your concerns. Your research advisor will work with you while writing your thesis, and must approve the content and organization before sending copies to the other committee members.

Guidelines:

1. Research supervisors should give a copy of these guidelines to each candidate for a graduate degree well in advance of the oral defense.
2. You will need to work closely with your research advisor during the writing of your thesis. After an acceptable thesis is complete, copies are sent to the committee members for their review, usually 2 weeks prior to the oral defense date. The date and time of the oral defense date is determined by mutual available of committee members.
3. Notices which give the time and place for the oral defense of the thesis will be posted in the building at least one week in advance and all interested persons will be invited to attend.
4. One person will be chosen by the committee to moderate the oral defense, usually the committee chair.
5. The candidate will present a summary of the research described in the masters thesis typically lasting somewhere between half an hour to one hour, at the discretion of the moderator.
6. Members of the audience will be invited to direct questions to the candidate about the research and tangential concepts.
7. After an appropriate number of questions have been handled, all those in attendance except the thesis committee and the candidate will be requested to leave.
8. The thesis committee may ask further questions of the candidate, after which the candidate will be asked to leave the room and wait for the committee to deliberate.
9. The candidate will be called back into the room and told whether he or she has passed. If the candidate has passed, the signature page of the thesis will be signed at that time. If the candidate has not passed, the candidate will be given information as to how to improve the written thesis and the oral defense. Arrangements will also be made for another oral defense of the thesis.

10. Should a second defense of the thesis be required, the process will start again at step 2.

Importantly, you can begin all of the above steps after approval of your thesis committee, even completing your oral thesis defense while not registered in Chem 799. However, you must be registered in Chem 799A or 799B when you submit your final signed thesis.

Submitting Your Thesis to the Graduate Division!

When you have successfully defended your thesis and made all changes required by your committee, you must submit the written thesis to the Montezuma Publishing where it will be formatted and reviewed then published. More information regarding thesis and dissertation services can be found on the Montezuma Publishing web page; <http://www.montezumapublishing.com/thesis1/ThesisandDissertation.aspx>.

Graduation

Possibly the most confusing step of the process is graduation. First of all, you should be aware that *graduation is not an automatic process*. You may complete your degree requirements, but you will not be awarded a degree, nor can you participate in commencement ceremonies, unless you have applied for graduation *within the required timeframe*. Late applications are not accepted by Graduate Affairs. The current application deadline can be found on the Academic Calendar of the most recent Graduate Bulletin or on the Graduate Affairs website. It is your responsibility to apply for graduation.

Because the application is often submitted in advance of when the degree requirements are actually completed, it is possible to apply for graduation, participate in the commencement ceremony, and not meet the requirements for the degree, which means no degree will be granted. *The ceremony and the awarding of the degree are not the same thing.* Just as completing the requirements without applying will not allow you to graduate or participate in commencement, do not assume that because you have walked, you have a degree. The degree is usually posted several weeks after the end of the term in which you are graduating (most students know whether or not they have met the requirements, so it is very rarely a surprise). These are all things you must keep in mind as you work towards your degree, even if that seems quite far off at the present time.

The university holds one commencement ceremony each year, in May. Graduate students who receive a degree in the summer session of the previous academic year, or the fall session of the current academic year, or expect to complete their degree requirements in the spring are eligible to participate in that year's commencement ceremony.

You must be enrolled in 799A or B when you submit your thesis. If you plan on graduating during the summer and you receive a tuition waiver, contact the Graduate Advisor as soon as possible, since tuition waivers are not normally granted during the summer.

VIII. The Ph.D.

Many of our students are working toward a Ph.D. degree through the Joint Doctoral Program (JDP) with the University of California at San Diego (UCSD). Getting a Ph.D. is not easy, but it may be a lot more accessible than you think. In your first semester at SDSU you will probably meet some Ph.D. students, and if you have any interest in the program, talk with them about it. Also talk with one or more faculty about the program.

Most students apply for the program at the end of their first year, although some apply in their second or third year. Applications are available in the spring semester for admission the following Fall. You can obtain an application check-list and forms from the Chemistry Department office or Graduate Advisor beginning in January. Applications and supplementary material, such as letters of recommendation, are not required until the first Friday in May.

Your application will first be reviewed by our Graduate Committee. *You must have a strong recommendation from a faculty member at SDSU who is willing to accept you as a Ph.D. student.* Students usually do their Ph.D. work with the person who is supervising their M.S. work, but that is not necessary. Other criteria that are used in reviewing an application are:

- You must have classified graduate standing or be eligible to be classified.
- Grades in graduate courses at SDSU—A GPA of 3.5 or better is expected.
- GRE General Exam—You should have scored at or above 50th percentile in the three areas of the general exam.
- GRE Subject Exam—A score above the 50th percentile is also expected on the GRE subject exam in Chemistry.
- Orientation/qualifier exams—if you have passing scores in three of the five areas, one including your research area, these may possibly be used in place of the orientation exams at UCSD. Only first attempt results can be used in place of UCSD exams. Results of these orientation exams will be part of your evaluation for the JDP.
- Three letters of recommendation—We strongly prefer to have letters of recommendation from SDSU or UCSD faculty. Again, one of these must be from your research advisor.

After the SDSU Graduate Committee meets, they will forward recommended JDP applications to the faculty of the Department of Chemistry and Biochemistry at UCSD, who will then do their own review. Should the UCSD faculty recommend you for the program your application will be sent to the UCSD Graduate Admissions office, which will then make the final decision. Students who are recommended by SDSU are usually, but not always, accepted by UCSD. The final decision from the UCSD Graduate Division may not be announced until late July. We will inform you of the SDSU and UCSD Graduate Committee *recommendations* before that time.

Once you have been admitted to the JDP, UCSD Graduate administration takes over. You will attend classes at UCSD for one year. This is your first year in the JDP. The second and subsequent years in the JDP are spent doing research at SDSU.

New graduate student orientation begins approximately two weeks before the beginning of their fall quarter. At this time the student's UCSD program of study will be determined. This is based on orientation exam results. UCSD will examine your orientation exam scores taken at SDSU. In general, the results need to be higher in your area of study, higher than 50 percentile and can be lower in two other areas. Some topics are considerably higher, approximately 70 + percentile. However, these must be your first attempt scores. If you haven't pass three topics including your research area, then you must take all five-topic exams at UCSD during orientation.

During the second year students are required to pass the Departmental Exam at UCSD. There was a major change in this exam starting Fall 2016. The new Departmental exam consists of two components: a written research proposal, and an oral defense of the research proposal. The first part is a written research proposal due November 1. This proposal will help train students to formulate hypothesis and develop strategies to test them. Students will also become far more familiar with relevant literature to their project and how their project contributes to the overall understanding. Finally, this will help develop essential writing skills for future proposals and fellowships. The second part of this is the oral research presentation. Students are expected to have the skills to orally present materials, demonstrate understanding of core material and mastery of related topics to their research project.

During the third year in the JDP students are required to pass the Qualifying Examination, which is required for advancement to candidacy for the Ph.D. The purpose of the examination is for students to gain approval of their proposed thesis research project from their Doctoral Committee, which consists of a minimum of five members, three from SDSU and two from UCSD. Both UCSD and SDSU must approve the committee. At the examination, students first give a 30-minute presentation, which is followed by a question-answer period.

The remaining time (usually two more years) is spent on your research project and on preparing for your Doctoral Defense and Dissertation.

Please note that the information in this section regarding requirements for the Ph.D. is subject to change, and is provided here to give you a general overview of the program, based on the requirements from previous years. More information is available on the UCSD Department of Chemistry and Biochemistry web site, on the SDSU-UCSD Joint Doctoral Program page, located at <https://www-chem.ucsd.edu/graduate-program/joint-doctoral-program/enrollment.html>. Alternatively, this same information is given for the UCSD Chemistry Ph.D. program: <https://www-chem.ucsd.edu/graduate-program/doctoral-program/index.html>.

Students enrolled in the JDP should obtain current information on the requirements from their research advisor, the Graduate Advisor at SDSU, or from UCSD.

APPENDIX A: CHEMISTRY STYLE SHEETS

DEPARTMENT OF CHEMISTRY M.S. THESIS GUIDELINES Last revision—July 1999

Ph.D. dissertations must conform to UCSD requirements. What follows therefore concerns only M.S. theses produced by the Department of Chemistry and Biochemistry, SDSU.

Form

With the additions and exceptions noted below, the *format* of the thesis, (margins, fonts, headings, etc.) should correspond to that mandated by the Division of Graduate Affairs, SDSU. Be sure to purchase the *Dissertation and Thesis Manual, San Diego State University, current edition* in the SDSU Bookstore. This is a required text and you are responsible for compliance with its contents. It should be read in its entirety. You may find it helpful to review previous student's theses from the Chemistry Department for structure and organization. DO NOT, however, use previous theses as a guide to formatting. A template for either PC or Macintosh versions of Word are available and are used in conjunction with the SDSU Thesis Manual for a majority of the necessary formatting. This can be downloaded from the Montezuma Publishing web page, <http://www.montezumapublishing.com>.

Style

There are many general guidelines available in the Main Library that will help you with writing style. In the instance of chemistry theses, the official guidebook is "The ACS Style Guide: A Manual for Authors and Editors," 3rd Ed., Coghill, A. M. Garson, L. R. Eds., American Chemical Society: Washington, D.C., 2006. Chapters 1-3 include detailed discussions of writing style, grammar, word usage and punctuation, and are particularly useful. The major journals in a program area should be consulted for additional information, e.g., *Analytical Chemistry* for analytical chemists, *The Journal of Biological Chemistry* for biochemists, and so forth. In addition, and in consultation with the research director, the student should consult the relevant journal(s) for detailed instructions, structures and schemes; the numbering and centering of equations; and the construction and labeling of tables, figures, etc. This information will usually be found in manuscript preparation guidelines published by each journal either in the January (first) or December (last) issue. Another good source of information is through the ACS web site, <http://www.chemcenter.org>. This site gives a lot of information, including "Notice to Authors of Papers" for the Journal of the American Chemical Society and samples of publications published by the ACS. When a journal is selected as the guide for theses purposes, the "Instructions to Authors" as well as a copy of a published article must be given to the thesis reviewer at the same time the thesis is submitted for review.

The Department of Chemistry requires that you present one bound copy of your thesis to your thesis advisor and one bound copy for the Chemistry Reference Center. Both copies should be

bound in red binding at the bindery off campus and have the thesis title imprinted in gold on the spine. However, you may also want additional copies for yourself.

Organization of the Table of Contents and Lists

Following the Table of Contents, you will need to include a List of Tables and a List of Figures, if used in your thesis. If so, the lists must contain the full title of each item as well as the page number on which it appears. (Such lists can be conveniently thought of as tables of contents for tables and figures.) For a particularly mathematical thesis a List of Symbols (including a brief definition of units) is highly recommended. The symbols are arranged in an order as follows:

Upper-case Letter
Upper-case (subscripted)
Upper-case (superscripted)
Upper-case (subscripted and superscripted)
lower-case letter
lower-case letter (subscripted)
etc.
(note the break here)
Greek Upper-case Letter
Greek lower-case letter

For example,

- A Eddy diffusion term in the van Deemter relation.
 A_s Specific surface area, cm^2g^{-1} .
a Relative volatility.

 Δ Difference in partition coefficients (p. 33).
Heat transfer term in eqn. 32, cal (p. 89).
 δ Solubility parameter defined by eqn. 44.
 ρ Density, g cm^{-3} .

Note that the definitions are capitalized and end in a period. Also, where a symbol is used for more than one term (such as for Δ in the above example), the page on which a particular definition is employed is given in parentheses.

Style for Bibliography and Footnotes in Chemistry Theses

This section is included as a helpful reference. Additional details of the bibliography style can be found in the “ACS Style Manual” or the “Instructions to Authors” of a particular journal. If a bibliography style other than that of the *J. Am. Chem. Soc.* is used, you must inform the thesis reviewer at Montezuma Publishing.

All references in the body of the thesis to journal articles, books, etc., will refer by number to an item in the bibliography. This bibliography, which will carry the section heading of “References”

(rather than “Bibliography”), will include all literature references, whether books, journal articles, etc., as a single list. In the text of the theses, the references will be numbered in order of appearance and the number will be placed in parentheses following the author’s name or at other appropriate places in the sentence. If for some reason the number appears at the end of the sentence, it should precede the period.

Examples: Jones (3) reported thermodynamic values.

..., whereas formic and acetic acid seem to interact weakly (5).

Each journal article will carry only one number in the Reference section and will indicate only the first page of the article. The article, of course, may be referred to several times in the text of the thesis. When there is more than one author to reference, the thesis writer may decide how many of these names to include in the text of the thesis. All of the names should be included in the References section.

If different pages of a book are referred to in different places in the thesis, each citation should have a different number. In the References section, the complete information should be given for the book at the first listing only. Subsequent listings would refer to the first number used and indicate the page for the new reference.

Example: 10. Reference 3, p. 270.

Do not make use of the terms ibid, op cit and loc cit in the text of the thesis or in the References.

In setting up the References section, follow the style of the *Journal of the American Chemical Society* (JACS). Note, though, that the references will be placed as a separate section at the end of your thesis, rather than dispersed throughout the text as is done in JACS. Also, be sure to include only those publications referred to in the thesis. The instructions and examples which are given below follow the style of JACS. Other appropriate journal styles can be used but you must inform the Graduate Division Thesis Reviewer of your choice.

1. Journal abbreviations are to be those used by *J. Am. Chem. Soc.*
2. The author’s last name comes first, followed by the initials (Pauling, L. not L. Pauling).
3. The name of the journal and the volume are to be in *italics* and the date is to be in **bold**.

Examples:

An example of a typical periodical reference would be:

7. Baker, C. G.; Gober, H. A. *J. Am. Chem. Soc.*, **1953**, 75, 4058.

A typical book reference would appear as:

8. Pauling, L. *The Nature of the Chemical Bond*; Cornell University Press: New York, 1960; p. 123.

A typical book reference which includes chapters written by separate authors would be:

9. Willard, P. G. In *Comprehensive Organic Synthesis*; Trost, B. M., Flemming, I., Eds.; Pergamon Press: New York, 1991; Vol. 1, Chapter 1.

A typical thesis reference would be:

10. Stolzenberg, P. G. Ph.D. Thesis, Stanford University, 1980.

Footnotes will in no way duplicate the References section. Footnotes should be used as little as possible but should be used for private communications and other things, which would not appropriately appear in the text or in the References section. Footnotes should be indicated by superscript numbers without parenthesis and should be numbered continuously throughout the text. If a superscript number appears at the end of the sentence, it should be placed after the period.

APPENDIX B: CHEMISTRY DEPARTMENT FACULTY

| | Office | Phone | Lab | Phone |
|--------------------|---------------|--------------|-----------------|--------------|
| Mike Bergdahl | GMCS 213G | 45865 | CSL 204 | 42422 |
| Carl Carrano | GMCS 213D | 41617 | CSL 410 | 45574/45577 |
| Thomas Cole | CSL 210A | 45579 | CSL 210 | 44895 |
| Andy Cooksy | CSL 310 | 45571 | CSL 307/312 | 40891/42710 |
| Erica Forsberg | CSL 401 | 45806 | CSL | |
| Doug Grotjahn | CSL 205 | 40231 | CSL 203/209 | 47396/41620 |
| Jing Gu | EIS 210 | 46643 | | |
| Jeffrey Gustafson | CSL 208 | 45580 | CSL 206 | 41618 |
| Chris Harrison | GMCS 213E | 41609 | CSL 407C | 45597 |
| Gregory Holland | GMCS 213C | 41596 | CSL 402 | 46196 |
| Tom Huxford | CSL 325A | 41606 | CSL 325 | 41597 |
| Regis Kompera | GMCS-203A | | | |
| Young Kwang Lee | EIS 17 | | | |
| John Love | CSL 339A | 42063 | CSL 339 | 41616 |
| David Pullman | CSL 301 | 45573 | CSL 303/305 | 42002/41593 |
| Byron Purse | CSL 213 | 46215 | CSL 211 | 45857 |
| Anca Segall | LS 327 | 44490 | | |
| Diane Smith | CSL 412A | 44839 | CSL 412 | 44499/45345 |
| Christal Sohl | CSL 328 | 42053 | CSL326 | 42039 |
| William Stumph | CSL 334 | 45575 | CSL 332 | 43771 |
| Manal Swairjo | CSL 340 | 46801 | CSL 338 | 44224 |
| William Tong | GMCS 209C | 45929/42442 | CSL 302/306/308 | 41611/44434 |
| Peter van der Geer | CSL 322 | 45582 | CSL 324 | 41619 |
| Yong Yan | GMCS 213F | 45770 | CSL-407 | 46642 |

Emeritus Faculty

| | | |
|----------------|----------|-------|
| Dale Chatfield | CSL 401 | 45806 |
| Robert Metzger | CSL 312B | 42710 |
| Peter Kovacic | CSL-312B | |

Adjunct Faculty

| | | | | |
|-----------------|-----------|-------|-------------|------------|
| Kathy McNamara | CSL 313 | 41614 | CSL 330 | 43771 |
| Karen Peterson | CSL 309 | 44507 | CSL 303/305 | 42002/1593 |
| Theresa Carlson | GMCS 213B | 45481 | | |