

**Academic Requirements & Procedures
for the
Chemistry/Biotechnology Graduate Program**

Revised 5/16/07

TUFTS UNIVERSITY

Department of Chemistry and Biotechnology Center

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1. INTRODUCTION.

1.1 *Graduate Programs in Chemistry/Biotechnology.*

The Department offers programs leading to the degrees of Master of Science (M.S.) for students seeking an education at an advanced level in chemistry/biotechnology and Doctor of Philosophy (Ph.D.) for those preparing for careers in which chemical/biotechnology research is a central activity.

1.2 *Purpose and Content of the Handbook.* A detailed account of the academic requirements and procedures is provided for graduate students in chemistry. The intent is to describe the programs and explain the rationale behind them; to delineate the responsibilities of students, faculty committees, faculty members and the administration of the Department; to promote consistency in procedures and standards; and to provide a basis for communication between the faculty and students regarding expectations for performance and achievement.

1.3 *General Information.* A general summary of the academic structure is found in the Tufts University Arts & Sciences Bulletin. Graduate School regulations are found in the "Guide for Graduate Students" available in the Graduate School office. A description of the graduate program in chemistry is available in the chemistry office. **It is the responsibility of each graduate student to become aware of the academic requirements, procedures and deadlines of the Graduate School of Arts and Sciences, the Department of Chemistry, and the Biotechnology Center.**

2. THE GRADUATE COMMITTEE

2.1 *Channels of communication.* All communications from students concerning clarification of and petitions for exceptions from the rules described in this handbook should be addressed to the Chair of the joint Chemistry/Biotechnology Graduate Committee. This committee is comprised of faculty members from three main areas of chemistry and two main areas of biotechnology and is charged with the responsibility of monitoring a student's progress through the rules and requirements delineated in this handbook. The Committee will consist of at least one member from the Chemistry Department and one member from the Biotechnology Center.

2.2 *Graduate Committee Functions.*

(a) The Joint Graduate Committee (JGC) serves as the interim academic advisor when the student enrolls. The committee will advise in planning a program which will provide the foundation and background needed in the student's area of intended concentration. The JGC Chair or member will sign the student's University registration form and forward it to the Registrar's office. The Chair maintains records of all committee actions and student programs.

(b) The JGC operates according to general policies determined by faculty vote.

(c) The JGC is charged with determining whether Tufts University courses outside the

chemistry department and biotechnology center are acceptable for graduate credit. Requests must be in the form of a petition to the committee and must include a course description.

- (d) The JGC is charged with the evaluation of transfer credits for entering students with previous graduate course work according to the policies described in Sec. 3.5. Requests should be made using the Graduate School form *Petition for Transfer of Credit*.
- (e) Advisement responsibilities are shared between the JGC and the student's research advisor, when selected. The responsibility for advising passes to the student's research committee when appointed (see Section 5). However, the JGC continues to monitor each student's progress in its record-keeping capacity.
- (f) All non-thesis Masters Degree candidates must meet with the JGC Chair prior to the beginning of the Fall and Spring semester to review their academic progress.

2.3 Academic review.

- (a) At the end of each semester, the student's record is reviewed by the JGC. Candidates with unsatisfactory progress will be placed on academic probation (Section 10).

3. REQUIREMENTS AND QUALIFICATION FOR DEGREE

3.1 *Responsibility.* A graduate student accepted into the M.S. or Ph.D. program must satisfy all requirements for that program. To obtain the Ph.D. degree, students must complete the requirements according to the time table delineated below, unless a written exemption is obtained from the Joint Graduate Committee. Even though a periodic review is made by the Committee, **each student is personally responsible for insuring that all requirements are fulfilled.**

3.2 *The Core Requirement for Ph.D. Candidates*

- (a) In order to fulfill this requirement the student must demonstrate a proficiency in organic chemistry, biochemistry, molecular biology, and in one other traditional area of chemistry (analytical, inorganic, or physical). Proficiency is demonstrated by passing with a grade of B- or better five graduate level courses in these areas, as follows: one course in organic chemistry (CHEM 150, 151, 152, or 155), two courses in biochemistry (CHEM 171 and 172), one course in molecular biology (BIO 105 or equivalent), and one additional chemistry class (CHEM 131, 132, 133, 134, 136, 141, 142, 144, 145, 146, 161, 162, 164, or 165).
- (b) The foundation requirement must be fulfilled by the end of the student's third semester in residence or the student will be placed on probation.
- (c) Students who do not fulfill the foundation requirement by the end of the fourth academic semester will not be allowed to continue in the Ph.D. program.
- (d) Students may place out of **one** of the five courses needed to satisfy the Core Requirement if they demonstrate graduate proficiency in that area by some other means. The particular way in which proficiency is demonstrated is at the discretion of the faculty who are in that division. *Placing out of a Core Requirement earns no course credit.*
- (e) For a transferred course to be counted toward the Core Requirement, the Department must give its written approval by checking the appropriate section of Form D.

3.3 *Course Requirement for Ph.D. Candidates.*

- (a) Ph.D. candidates must complete, in addition to the foundation requirement, a minimum of two graduate level courses (110 or higher) in chemistry or biotechnology, not including 191 or 192, with a grade of B- or better. The course requirement must be fulfilled by the end of the fourth academic semester or the student will be placed on probation. Students who do not fulfill the course requirement by the end of the fifth academic semester will not be allowed to continue in the Ph.D. program.
- (b) Graduate courses offered in related fields outside the Chemistry Department or the Biotechnology Center must be approved by the research advisor.

3.4 *Course Requirements for M.S. Candidates.*

- (a) All M.S. candidates are required to Pass (B- or better) eight formal classroom graduate courses in chemistry/biotechnology or approved related fields. Three of these courses must be in Chemistry, one in biochemistry and one in molecular biology. Two may be independent study (293, 294). Alternatively, a student may elect to take 6 formal classroom courses and 2 credits of research (295,296). The courses must be chosen in consultation with the JGC.
- (b) Students may also elect to prepare a Masters thesis which they must then present and defend before their research committee.

3.5 *Graduate Committee policies for transfer of graduate course credit.*

- (a) Graduate courses taken prior to enrollment in the Tufts graduate program (taken at Tufts or elsewhere) may, under certain circumstances, be transferred and counted towards a Tufts graduate degree. Students wishing to transfer a course should file a written petition (attached Form D) with the GC. For a course to be eligible for transfer, the student must have earned a grade of B- or better in that course.
- (b) No more than two of the total required courses may be transferred from another institution for M.S. or Ph.D. candidates. An additional two graduate courses may be transferred if taken at Tufts.
- (c) Courses transferred must not have been counted toward a previously conferred baccalaureate degree. However, courses used towards advanced degrees earned at other institutions may be transferred, subject to the two course maximum.
- (d) Students should consult the Graduate School "Guide for Graduate Students" prior to submitting Form D to the JGC.

4. RESEARCH ADVISOR

4.1 *Selection of the Research Advisor.*

- (a) The research advisor is the faculty member with whom the student chooses to collaborate on their dissertation research project. Most often, the student selects a problem from among several that the professor may suggest as appropriate for the M.S. thesis or the Ph.D. dissertation. The student is expected to contribute to the direction of the work as the research progresses.

- (b) During the fall semester, Chemistry Department and Biotechnology Center research seminars provide a forum for faculty members to describe their research interests and activities. All entering graduate students are required to attend. Graduate students may not officially join a research group until after all the research seminars are completed.
- (c) New students are strongly encouraged to inform themselves about the research interests of the faculty by reading background material in the library, requesting reprints for in-depth study, and especially by visiting those professors and their graduate students whose work appears to be of greatest interest. These visits are the occasion for detailed discussions of the research the student might undertake for the degree.
- (d) When the student is ready to select a research advisor, an appointment should be made with the professor to discuss arrangements. The professor and the student should discuss the initial research problem on which the student will begin, the sources of financial support during the academic year and summer, and course work or other requirements the professor feels are essential to the proposed research.
- (e) Students usually select a research advisor by the end of their first semester. The selection should be done thoughtfully, as student and research advisor normally work together very closely, and each has a vital interest in the progress of their collaboration.

5. RESEARCH COMMITTEE

5.1 Selection and Purpose.

- (a) When the student is ready to begin reporting the results of the research or is to present a study topic (see section 6), the student and research advisor meet to choose a formal research committee. The committee is comprised of the research advisor and at least two other chemistry faculty or biotechnology center members who agree to serve on the research committee. An additional member outside the department may also serve on a committee. The latter is particularly desirable when a student chooses an interdisciplinary research problem.
- (b) The research committee is charged with the following duties:
- (i) Continue the academic advising function.
 - (ii) Approve and evaluate the Ph.D. candidate's study topics.
 - (iii) Evaluate the written & oral defense of the original research proposal.
 - (iv) Evaluate the written & oral defense of the student's thesis research.

5.2 Periodic Evaluation.

The research committee meets periodically to evaluate the student's progress. These evaluations may result in the following actions. (Ph.D. only)

- (a) Continuation in the Ph.D. program, which may be conditional upon satisfaction of a prescribed set of requirements.
- (b) Academic probation.
- (c) Continuation in a M.S. program. This recommendation should be discussed with the student and should be consistent with the student's career objectives.
- (d) Dismissal from the program.

5.3 Committee Meetings

- (a) One week prior to each committee meeting (study topics and proposal), the student will provide a Research Progress Report for discussion at the meeting. Questions regarding the research will be part of the meeting and the student's research progress will be a criterion for successful completion of the requirement. If the student's committee deems that research progress is insufficient, they may decide to meet again after a finite time period to reevaluate the progress. Lack of progress in research will be cause for dismissal from the program.
- (b) The Research Progress Report should be a brief (no more than two page) summary of research accomplished. The report should have two parts: a statement of the overall research goals of the thesis project(s), and an outline or summary of the student's research accomplishments since the last committee meeting. The student should *not* prepare a formal oral presentation about the research for the committee meeting, but should be prepared to answer questions from the committee about the research.
- (c) After each meeting of the committee, the student's research advisor will write a letter summarizing the student's strengths and weaknesses identified during the meeting. Specific topics the student needs to work on as well as issues regarding oral and writing skills should be discussed in the letter. The letter will be signed by all the attending committee members and given to the student. A copy will be placed in the department file for future reference.

6. STUDY TOPICS (Ph. D. Candidates)

- 6.1 *Purpose.* Breadth and depth in the major field shall be demonstrated by successfully completing two independent study topics. Research chemists/biotechnologists are often called upon to give an oral presentation of research work. These seminars and the discussions that normally follow provide an important means of scientific communication. Hence, it is necessary to learn how to present effective seminars. An additional purpose of the study topics is to encourage students to use library and on-line resources to master a topic in their major field (for any topics covered in introductory graduate courses, this would mean a level beyond the course).
- 6.2 *Content.* The subject matter for the topics must be selected in consultation with the research advisor. Each study topic consists of a written paper, an oral presentation, and an oral exam by the research committee. One of the study topics, generally the first, must be presented as a departmental seminar (public study topic). The other study topic (private study topic) is presented to the research committee only. The written reports must be detailed enough to reflect a thorough graduate-level understanding of the subject and include references to the relevant literature.
- 6.3 *Presentation.* Annually, when the Department has determined available seminar dates, a sign-up sheet will be posted in the chemistry and biotechnology center offices. Students wishing to present a public study topic in that year should select a date for presentation from the available list on a first-come-first-serve basis. The private study topic need only be scheduled with the research committee. The written report should be submitted to the

research committee at least one week prior to the presentation. The presentation is made with all research committee members present. Only under extenuating circumstances should the presentation be made with only two committee members present. In this case the third member must, through consultation with the other members and evaluation of the written report, concur with the other research committee member's decision. The entire committee must be present for at least one of the study topic presentations.

6.4 *Policy on Cancellation of Public Study Topics.* In the event that a scheduled public study topic is cancelled by the presenter, the Joint Graduate Committee will **not** reschedule the seminar for the same semester as the cancellation. The student will be given an opportunity to sign up for a seminar date in the next semester *after* all other students wishing to present a study topic have selected dates. If a student is in her/his fourth semester in residence at the time of cancellation, then cancellation of the seminar is functionally equivalent to dropping out of the Ph.D. program.

If the student has a legitimate and serious reason for canceling the seminar (such as grave illness or bereavement), and the student wishes to reschedule the seminar for the same semester, s/he may submit a written petition to the Joint Graduate Committee requesting a waiver of the policy.

6.5 *Completion Date*

- (a) Students are encouraged to complete the first study topic before the end of the third semester. Students must have attempted both study topics by the end of their fourth semester. A student who has not attempted both study topics by the end of their fourth semester will be dismissed from the Ph.D. program.
- (b) If a student has attempted both study topics but has not successfully completed the requirement by the end of the fourth semester, the student will be placed on academic probation for one semester. At the end of the probationary semester, the student may not continue in the doctoral program if the requirement remains unsatisfied.
- (c) Upon successful completion of each study topic, the student must file **Form A or B** (Appendix).

6.6 *Guidelines for preparing and presenting the study topic.* The student must meet these guidelines in order to complete successfully the study topic requirement.

A. *Written Report (Both Study Topics)*

1. The written report must be prepared with adequate attention to style, clarity, and organization, and with all material (data, figures, tables, etc.) thoroughly referenced.
2. The study topic must demonstrate a proper reliance on the primary literature. (The study topic may not be drawn principally from the review literature). A thorough, up-to-date literature search is essential.
3. The written report should be aimed at a specialist readership and should be similar in style to a review article in the student's field of specialization.

4. The study topic must demonstrate a synthesis of ideas and critical analysis of the subject matter. Direct quotes from the literature should be used sparingly.
- B. *Public Seminar (Public Study Topic)*
1. The oral presentation must reflect a graduate-level understanding of the topic and be appropriately detailed. The presentation should be aimed at a chemically and biotechnology educated general audience, not a lay audience.
 2. The formal presentation shall be of adequate length (45-55 minutes).
 3. The oral presentation and responses to questions must be lucid.
- C. *Private Oral Presentation (Private Study Topic)*
- The student should plan an oral presentation aimed at a specialist audience to last 30 - 50 min. Generally, this presentation will be interrupted frequently by questions from the research committee and will therefore be more of a dialectic than the public seminar.
- D. *General*
1. The student must demonstrate a thorough knowledge of the subject material, both in the written and oral presentations, and in response to questions from the audience and the student's committee.
 2. The student must display a familiarity with the relevant experimental or computational methods presented.
 3. The student must be able to place the study topic in the broader context of the field. This may be done by demonstrating a reasonable awareness of related techniques and subject matter and being able to evaluate and compare them.

6.7 Evaluation.

- (a) At the end of the oral presentation, the committee will conduct a private oral exam of the student. The student may be questioned about any subject matter presented in the study topic, including experimental details, about the research progress report, and about any other subject areas deemed germane by the committee.
- (b) All faculty in attendance at the public seminar shall fill out a questionnaire (see attached Study Topic Evaluation-Faculty Audience Member). When the question period is complete, the committee chair will collect the forms from the faculty and will use them to assess whether the student's public seminar met the expectations of the department faculty. Individual forms or summaries of the audience faculty responses will be provided to the student. Other members of the audience (e.g. grad students, postdocs) may also fill out forms (see attached Study Topic Evaluation-General Audience Member) and return them directly to the student.

The committee will evaluate the student's performance by the criteria on the attached form (Study Topic Committee Evaluation Form) that summarize the requirements. Each committee member must either Pass or Fail the student. If any of the criteria are not met, the student must fail. If the student fails, he/she has one month to redo another different topic. In committees where there is a positive, but split, vote, then homework may be assigned to allay the concerns of the dissenting member.

7. ORIGINAL RESEARCH PROPOSAL (Ph.D. Candidates)

7.1 Definition and Purpose. The research proposal is based on the literature rather than on the student's own research. It provides the opportunity to demonstrate both understanding and originality. The original proposal consists of a written document, an oral presentation, and defense before the research committee.

7.2 Role of Research Committee. As described in Section 5, the student's research committee will advise on the preparation of the proposal, and is charged with evaluating it as sufficient to satisfy this portion of the degree requirement.

7.3 Guidelines for preparing the original proposal.

- (a) The written portion of the proposal should be in the form of a grant application (such as to NSF or NIH) with an introduction, objectives/specific aims, summary of previous work done on the problem, method of attack, potential problems with suggested solutions and a conclusion. The proposal should be self-contained and include sufficient material to demonstrate the value, originality and creativity in the proposed research.
- (b) The proposal as a whole is to be developed independently. Faculty or other students may provide only limited assistance with specific technical problems.
- (c) If advice is needed as to whether a problem is suitable as a basis for a proposal, a meeting should be scheduled with the research committee to discuss these matters.
- (d) A copy of the proposal should be given to each member of the research committee at least one week before its presentation/defense.
- (e) The statement of the problem must be precise and unambiguous. There should be no room for doubt as to what is meant.
- (f) The literature pertaining to the problem should be documented. A consistent set of bibliographic conventions, preferably those used by a leading journal in the area of the proposal, should be used.
- (g) The method of attack should be described fully, including the feasibility of each step in the process proposed for solving the problem.
- (h) The probable results of the proposed research and the conclusions which would follow from each, should be fully described.
- (i) Assumptions and uncertainties should be stated explicitly.
- (j) An estimate of the time required to carry out the research should be made on the basis that the student would conduct the work. Substantial costs for equipment, computer time, and materials, should also be estimated.

7.5 Completion Date. The proposal must be successfully defended no later than the end of the eighth semester in residence. Students failing to complete this requirement will be placed on academic probation for one semester. At the end of the probationary semester the student may be dismissed from the Ph.D. program.

7.6 Evaluation

- (a) At the proposal defense, the research committee will discuss the proposal by probing the areas emphasized above. If appropriate, related aspects of the proposal may also

be discussed. The proposal will be judged on the basis of novelty of the research idea and the suitability of the proposed method of attack. The objective is to assess the independent research ability of the student at this stage of the Ph.D. degree work.

- (b) The research committee will deliberate in private at the conclusion of the defense and immediately inform the student of their decision. Upon approval of the research proposal by the research committee the student must file FORM C (Appendix) with the JGC Chair.

8. THESIS AND FINAL ORAL DEFENSE (M.S. and Ph.D. Candidates)

8.1 *Requirements.* The "Guide for Graduate Students" specifies the thesis regulations which have been set forth by the Graduate School of Arts and Sciences. Additional requirements for the thesis are the responsibility of the research advisor. The Chemistry Department/Biotechnology Center requires, as part of the procedure by which a thesis is approved, a formal oral defense by the candidate before an examination committee. This committee recommends action to the university regarding the thesis. The Chair of the Chemistry Department certifies completion of the degree requirements and recommends to the Dean of the Graduate School that the degree be awarded.

8.2 *Selection and composition of the Examination Committee.*

- (a) Three members of the Chemistry Department or Biotechnology Center, at least one from Chemistry and one from Biotechnology, and an additional member from outside the University is required for the Ph.D. thesis defense. Ordinarily, the members of the student's research committee serve as the Examination Committee. For the sake of maintaining the continuity of the committee, faculty members who have left the department during the year preceding the thesis defense may be considered as Department committee members.
- (b) Copies of the thesis must be delivered to the examination committee at least TWO weeks prior to the examination.
- (c) The student, in consultation with the Chair of the Examination Committee, arranges the time and place and notifies the Department Chair at least TEN days in advance.
- (d) M.S. examinations must be announced to the faculty of the Department and Biotechnology Center, and Ph.D. examinations to the faculty of the University in the form of written announcements including the information listed below. A copy of the notice is also put into the student's file.
 - (i) Name of Student
 - (ii) Degree
 - (iii) Title of Thesis
 - (iv) Names of Examining Committee, Chair and research advisor.
 - (v) Time and place of examination
 - (vi) Department of Chemistry

8.3 *Presentation and Defense.* As part of the Ph.D. requirements, the Ph.D. candidate is required to make a public presentation of the thesis work which is to be followed by a private oral defense in front of the Examination Committee.

8.4 Possible actions of the Examination Committee.

- (a) *Acceptance of dissertation/thesis.*
- (b) *Acceptance with minor changes.* This action requires the candidate to incorporate the minor changes, but allows for the signatures of all committee members at the conclusion of the defense with no further re-examination necessary.
- (c) *Acceptance with major changes.* This category requires a re-examination of the corrected thesis by the committee, but no repetition of the oral examination.
- (d) *Rejection.* This action requires the student to prepare a new thesis, and generally involves additional research work. The Examination Committee will address a brief memorandum apprising the Department and JGC Chairs of the situation.

9. ADDITIONAL REQUIREMENTS

9.1 *Departmental and Center Seminar Series.* All graduate students are required to attend these seminars to broaden their exposure to many of the current areas of research activity. Attendance is noted, and demonstrates to the faculty that a student is genuinely interested in all aspects of chemistry and biotechnology.

9.2 *Teaching Requirement.* All graduate Ph.D. students are required to serve in a teaching capacity for a minimum of one semester.

10. ACADEMIC PROBATION

10.1 *Conditions Leading To Probation.* Academic probation is a formal status a graduate student

assumes when he or she has not met the requirements to remain in the program. Some reasons for a student being placed on probation include:

- (a) Unsatisfied Foundation Requirement at the beginning of the fourth semester in residence. (Ph.D. only)
- (b) Low overall grade point average in course work (less than B-).
- (c) Course requirement not met after four semesters. (Ph.D. only)
- (d) Study topics not completed after four semesters. (Ph.D. only)
- (e) Original proposal not completed after 8 semesters. (Ph.D. only)
- (f) Failure to meet deadlines or fulfill requirements stipulated by the student's research advisor or research committee.

10.2 *Rectification.* A student on probation has one full semester to rectify the deficiency. Academic probation can only be removed by the Joint Graduate Committee.

10.3 *Consequences.* If not rectified by the end of the probationary semester the student may face dismissal from the graduate program. Such Ph.D. candidates may receive a M.S. degree if they have completed the requirements for that degree at the end of their probationary semester. Students on probation may become ineligible to receive a teaching or research

assistantship or other financial assistance including federal aid.

11. TEACHING ASSISTANT GUIDELINES

11.1 *Assignment.* A teaching assistant (TA) is assigned to a course by the Department Manager in consultation with the Graduate Committee and Department Chair. Individual requests may be made well in advance of each semester; however, the final decision rests with the Chair.

11.2 *Responsibilities.* The teaching assistantship is a paid position which entails certain responsibilities. The course supervisor assigns all course-related work to the TA. Failure to fulfill the teaching responsibilities as delineated by the course supervisor is cause for dismissal as a teaching assistant. This may include not only loss of stipend but also loss of guaranteed support and tuition waiver.

11.3 *Conflict of Interest.*

- (a) Since the TA is in a position of authority, any romantic involvement while the student/teacher relationship exists (even if consensual) must be avoided. In addition to being in violation of University policy, such relationships may lead to defacto sexual harassment and prompt disciplinary action.
- (b) In a situation where a student and a TA are more than casual acquaintances, the TA should request that the student be switched to another section in order to avoid any real or apparent conflict of interest.
- (c) Since the TA is being paid by the Department to teach his/her students, it is improper for a TA to tutor for profit any student for whom the TA has official grading or tutoring responsibility. For example, a TA teaching Instrumental Analysis (CHEM-141) could tutor Introduction Chemistry (CHEM 1) students, whereas it would be improper for a CHEM-1 TA to tutor any CHEM-1 students since these TAs have shared responsibility for helping all CHEM-1 students during their office hours.

12. ETHICAL CONDUCT

All members of the Chemistry Department and Biotechnology Center are required to maintain the highest of ethical standards in all of their research and teaching duties. Two documents which should be consulted are the Tufts University Handbook "*Honesty is the Best Policy*" published by the Dean of Students Office and "*On Being A Scientist - Responsible Conduct in Research*" published by the National Academy Press and available for review in the Chemistry Department Office or the Biotechnology Center.

13. APPENDIX

- The following forms are contained at the end of the handbook for your use.
- o Progress Summary Sheet for Ph.D. Candidates - Checklist for Student Use.

- Form A - Satisfactory Completion of Public Study Topic
- Form B - Satisfactory Completion of Private Study Topic
- Form C - Satisfactory Completion of Original Proposal
- Form D - Department Pre-Approval Form for Transfer of Credit Petition
- Study Topic Evaluation - Committee Member
- Study Topic Evaluation - Faculty Audience Member
- Study Topic Evaluation - General Audience Member

NOTE: Upon completion of the requirement, the respective form must be completed by the student, signed by all the research committee members, and then submitted to the Chair of the Graduate Committee.

The following forms not included here are contained in the "Handbook for Graduate Students" published by the Graduate School of Arts and Sciences:

- Recommendation for Award of M.S. Degree
- Recommendation for Award of Ph.D. Degree
- Request for Leave of Absence or Extension of Time
- Petition for Transfer of Credit
- Transcript Request for Petition of Transfer of Credit
- Approval of Thesis/Dissertation for Binding
- Certificate of Fitness
- Change of / Address / Name / Advisor

The Graduate School of Arts and Sciences forms should be completed by the student and submitted to the Graduate Committee Chair. The forms will then be returned to the student who should forward them to the Graduate School.

PROGRESS SUMMARY SHEET (Ph.D. Candidates)

Name _____ Semester Enrolled _____

Research Advisor _____

REQUIREMENT	COMPLETION DATE	STATUS
1) Core Courses	End of 3 rd academic semester.	Analytical <input type="checkbox"/> Physical <input type="checkbox"/> Organic <input type="checkbox"/> Molecular Biology <input type="checkbox"/> Biochemistry <input type="checkbox"/>
3) Research Committee (In addition to Advisor)	At selection of study topic.	2) _____ 3) _____
4) Graduate Course Work (Two minimum in addition to core requirement)	End of 4 th academic semester.	<input type="checkbox"/> <input type="checkbox"/>
5) Study Topic (Public)	Before the end of 4 th semester.	<input type="checkbox"/>
6) Study Topic (Private)	Before the end of 4 th semester.	<input type="checkbox"/>
7) Teaching	Anytime	<input type="checkbox"/>
8) Original Proposal	No later than end of 8 th semester	<input type="checkbox"/>
9) Written Thesis	No less that two weeks prior to oral defense.	<input type="checkbox"/> Copy submitted to each examination committee member.
10) Thesis Defense		<input type="checkbox"/> ☺

FORM A

Satisfactory Completion of Public Study Topic

_____ has satisfactorily completed
Student Name

the written and publicly presented study topic on _____ entitled

Date

Research Committee Signatures:

Research Advisor

Committee Member
Committee Member

After satisfactory completion of the study topic presentation and oral exam, this form must be completed by the student and returned to the Chemistry Department Office.

FORM B

Satisfactory Completion of Private Study Topic

_____ has satisfactorily completed
Student Name

the written and privately presented study topic on _____ entitled
Date

Research Committee Signatures:

Research Advisor

Committee Member
Committee Member

After satisfactory completion of the study topic presentation and oral exam, this form must be completed by the student and returned to the Chemistry Department Office.

FORM C

Satisfactory Completion of Original Proposal

_____ has satisfactorily completed
Student Name

the written and presented original proposal on _____ entitled
Date

Research Committee Signatures:

Research Advisor

Committee Member
Committee Member

After satisfactory completion of the study topic presentation and oral exam, this form must be completed by the student and returned to the Chemistry Department Office.

FORM D

Department Pre-Approval Form for Transfer of Credit Petition

Please fill out the top part of this form and then file it with any member of the GC. The course syllabus and description, as well as a completed Tufts Graduate School Transfer of Credit Form (available in the Graduate Student Handbook at: <http://ase.tufts.edu/gradstudy/GSAShdbk.pdf>) must accompany this form. Please use a separate Form D for each course.

To be filled out by student:

Today's date:

Student:

Course number and title:

Date course taken (semester/year):

Where course was taken:

For Tufts JGC use:

Tufts equivalent course (if any):

- This course satisfies the Core Requirement in: _____
- This course does not satisfy a Core Requirement but may be counted toward the Course Requirement.
- This course may not be used toward an advanced degree in Chemistry at Tufts.

Signature of Tufts Instructor _____
(if applicable)

Signature of JGC Representative _____

Signature of Department Chair _____

Study Topic Committee Member Evaluation

Speaker: _____ Date: _____

The following points are identified in the Department's Academic Requirements and Procedures Handbook as the minimum requirements that must be met to complete successfully the study topic requirement. Failure to meet any one of these requirements, as determined by a majority of the student's faculty committee, will result in failure of the study topic attempt.

Public Seminar:

1) Presentation was sufficiently detailed and reflected a graduate-level understanding of the material.	<input type="radio"/> Yes <input type="radio"/> No
2) Presentation was aimed at a chemically educated general audience.	<input type="radio"/> Yes <input type="radio"/> No
3) Formal presentation was of adequate length (>45 minutes, ideally 50 minutes).	<input type="radio"/> Yes <input type="radio"/> No
4) Oral presentation and responses to questions were sufficiently lucid.	<input type="radio"/> Yes <input type="radio"/> No
Comments:	

General Guidelines

1) Presenter demonstrated an adequate knowledge of subject matter.	<input type="radio"/> Yes <input type="radio"/> No
2) Presenter displayed familiarity with relevant experimental or computational methods.	<input type="radio"/> Yes <input type="radio"/> No
3) Presenter could place study topic in broader context of the field. (Demonstrated awareness of related techniques; Able to evaluate and compare them.)	<input type="radio"/> Yes <input type="radio"/> No
4) Presenter was able to explain sufficiently any words, formulas, or concepts presented.	<input type="radio"/> Yes <input type="radio"/> No
Comments:	

Written Report

1) Report was prepared with adequate attention to style, clarity and organization.	<input type="radio"/> Yes <input type="radio"/> No
2) Material obtained from the literature (Tables, Figures, Data,...) was properly cited.	<input type="radio"/> Yes <input type="radio"/> No
3) The study topic was drawn primarily from the primary literature and not principally from review literature.	<input type="radio"/> Yes <input type="radio"/> No
4) The study topic demonstrated a sufficient synthesis of ideas and critical analysis of the topic.	<input type="radio"/> Yes <input type="radio"/> No
Comments:	

Signed: _____ Date: _____

Study Topic Evaluation
Faculty Audience Member

Speaker: _____

Date: _____

Introduction: How well did the presenter introduce:	Very Well...	Very Poorly			
1) The subject matter of the talk?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2) The reasons for choosing the topic and its scientific and/or technological importance.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
3) The "prior art", i.e., what has been done before and what is currently considered state-of-the-art?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
4) Oral presentation and responses to questions were lucid.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Comments:					

Body:			
1) Did the level of presentation assume too much or too little knowledge by the audience?	<input type="checkbox"/> Too Much	<input type="checkbox"/> About Right	<input type="checkbox"/> Too Little
2) Were there scientific or technical inaccuracies in the material presented? *	<input type="checkbox"/> Many	<input type="checkbox"/> Few	<input type="checkbox"/> None
3) Were unfamiliar terms, and concepts, and ideas clearly defined/explained without excessive use of jargon? *	<input type="checkbox"/> Always	<input type="checkbox"/> Most of the time	<input type="checkbox"/> Rarely
4) Did the talk follow a logical order?	<input type="radio"/> Yes <input type="radio"/> No		
5) Did the presenter speak clearly and audibly?	<input type="radio"/> Yes <input type="radio"/> No		
6) Were visual aids clearly readable?	<input type="radio"/> Yes <input type="radio"/> No		
7) Were there any points that you felt the speaker explained particularly well? If so, what were they?			
8) Were there any points that you felt the speaker explained particularly poorly? If so, what were they?			
Comments (including examples of * items)			

Conclusion:	
1) Did the speaker adequately summarize the topic and its scientific significance?	<input type="radio"/> Yes <input type="radio"/> No

Summary:					
Rate the overall quality of the presentation:	<input type="checkbox"/> Excellent	<input type="checkbox"/> Very Good	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor

Evaluator: _____

The following points are identified in the Department's Academic Requirements and Procedures Handbook as the minimum requirements that must be met to complete successfully the study topic requirement. Failure to meet any one of these requirements, as determined by a majority of the student's faculty committee, will result in failure of the study topic attempt.

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Comments:	

Study Topic Evaluation
General Audience Member

Speaker: _____

Date: _____

Introduction: How well did the presenter introduce:	Very Well...	Very Poorly			
1) The subject matter of the talk?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
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Body:			
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