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I. Introduction

This Graduate Handbook is a guide to the graduate programs offered in the Chemistry Department at Delaware State University (DSU). If other policies, regulations, deadlines, etc. exist in other documents at DSU, this handbook will direct you to those documents. The degrees covered by this handbook are included below.

I.1 Master of Science Degree Program in Applied Chemistry (Thesis)

The Master of Science Degree in Applied Chemistry is a specific degree program designed to provide the student with a broader understanding of the areas of chemical laboratory practices and advanced concepts for the educator. Courses will enhance the student’s professional skills and capabilities for dealing with the complex laboratory hardware common to the chemical industry. Additionally, the student will be informed of recent trends in research, industrial, and environmental chemistry. Students involved in teaching will be exposed to the latest innovations in computer technology as related to laboratory practices and safety. Students will be required to complete research directed and submit a thesis, which will be defended before their committee.

I.2 Master of Science Degree Program in Applied Chemistry (Non-thesis)

The Master of Science Degree in Applied Chemistry is a specific degree program designed to provide the student with a broader understanding of the areas of chemical laboratory practices and advanced concepts for the educator. Courses will enhance the student’s professional skills and capabilities for dealing with the complex laboratory hardware common to the chemical industry. Additionally, the student will be informed of recent trends in research, industrial, and environmental chemistry. Students involved in teaching will be exposed to the latest innovations in computer technology as related to laboratory practices and safety. This program is designed for individuals employed in industrial or educational positions, as well as those planning to enter such positions. This degree requires not laboratory work.

I.3 Ph.D. in Applied Chemistry

The Ph. D. in Applied Chemistry focuses on several areas of applied chemistry including polymer chemistry, biochemistry, environmental chemistry, hydrogen storage, etc. Students entering the program must formulate a course of study and research in consultation with the graduate program director (or with the student’s thesis advisor once an advisor has been chosen). Although course work and seminar presentation/oral exam are important aspects in the program, the student’s primary focus and devotion is on an independent research project in their chosen field. A PhD dissertation based on independent publishable original research must be defended in an oral presentation before the student’s PhD dissertation committee in a formal presentation once the research is completed.

II. Admission Requirements to the Graduate Program

II.1 Admission Committee

The admission committee will be the department’s graduate committee. The graduate committee will consist of the Chemistry Department Graduate Program Director and at least 2 other members of the Chemistry Department faculty at the level of assistant professor or above
with the Chemistry Department Chair serving as the 4th ex officio member. If the Chemistry Department Chair is serving as the Graduate Program Director, the committee will consist of three (3) members with the Department Chair serving as a regular voting member of the committee. The members of this committee will review incoming applications and respond to applicants.

II.2 Minimum and General Requirements

For admission to this program, applicants must show evidence that they have earned the bachelor’s degree in chemistry, or a related field, at an accredited college or university and possess the ability to carry out graduate work of high quality. If a student does not have a bachelor’s degree in Chemistry but has taken enough undergraduate chemistry credits at an accredited college or university, the Chemistry Department graduate program committee may recommend the student for acceptance into the graduate program. All applicants should have a minimum cumulative undergraduate grade point average of 3.0 (on a 4-point scale) and a scholastic average of 3.00 in their undergraduate major with at least twenty-four (24) credit hours in chemistry, including six credits in organic chemistry, six credits in physical chemistry, six credits in physics and six credits of calculus. If a student fails to meet these requirements the graduate committee may offer conditional acceptance into the program. Students must meet all of the conditions of their acceptance by the end of their first year in the graduate program to continue.

II.3 Documents to Be Submitted for Admission

To be considered for admission an applicant must submit a completed application package. This includes:

1. The application and application fee
2. Three letters of recommendation from persons who are acquainted on the potential for graduate study in the discipline
3. One (1) official transcript from each college or university attended
4. A completed resume detailing their research and work experience
5. Official Graduate Record Examination (GRE) scores with a minimum score of 148 Verbal and 147 Quantitative or equivalent. The test scores must not be more than five years old.
6. For students whose native language is not English, the official score of TOEFL will be required. The test score must be no more than 2 years old.

The Chemistry Department graduate program committee will review and recommend for approval/disapproval all applications to the graduate program.

II.4 Maximum Transferred Credits

Applicants admitted to the graduate program may transfer graduate credits from another accredited institution toward a graduate degree. This transfer will be done in accordance with the policies specified in the University’s graduate catalog. The student must provide supporting documentation with the request for transfer of credit. The Chemistry Department graduate program committee must give prior approval of the graduate credits. The transfer credit must be directly related to the student’s program of study and must have been completed not more than five (5) years prior to the student’s date of application.

(1) The maximum number of credits that may be transferred from another institution is nine
(9). This applies to both the Masters and Ph. D. degree program.

II.5 Departmental Entrance Exams

Students accepted into the graduate program must pass entrance exams on the four major areas of chemistry (organic, physical, inorganic and analytical) administered by the Chemistry Department faculty.

(1) Students who do not pass the entrance exam must successfully complete undergraduate coursework in the area of the exam/s that was/were failed.

(2) If the student is unable to successfully complete the undergraduate coursework during their first year, they will be dismissed from the program.
### III. Course Requirements

#### III.1 Course Requirements for Ph. D. in Applied Chemistry

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem 520 Advanced Organic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>Chem 573 Advanced Physical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>Chem 506 Structural Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>Chem 521 Advanced Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>Chem 556 and 557 Seminar in Chemistry I and II</td>
<td>2 (total)</td>
</tr>
<tr>
<td>Chem 560 Chemical Literature</td>
<td>1</td>
</tr>
<tr>
<td>Electives*</td>
<td>15</td>
</tr>
<tr>
<td>Research and Thesis Chem 590 &amp; 591</td>
<td>30 total for research</td>
</tr>
<tr>
<td>Total</td>
<td>60 hours minimum</td>
</tr>
</tbody>
</table>

#### III.2 Course Requirements for Masters of Science in Applied Chemistry (Thesis)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem 520 Advanced Organic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>Chem 573 Advanced Physical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>Chem 506 Structural Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>Chem 521 Advanced Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>Chem 556 and 557 Seminar in Chemistry I and II</td>
<td>2 (total)</td>
</tr>
<tr>
<td>Chem 560 Chemical Literature</td>
<td>1</td>
</tr>
<tr>
<td>Electives*</td>
<td>9</td>
</tr>
<tr>
<td>Research and Thesis Chem 590 &amp; 591</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>30 hours minimum</td>
</tr>
</tbody>
</table>

#### III.3 Course Requirements for Masters of Science in Applied Chemistry (Non-thesis)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem 520 Advanced Organic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>Chem 573 Advanced Physical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>Chem 506 Structural Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>Chem 521 Advanced Biochemistry</td>
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<tr>
<td>Chem 556 and 557 Seminar in Chemistry I and II</td>
<td>2 (total)</td>
</tr>
<tr>
<td>Chem 560 Chemical Literature</td>
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</tr>
<tr>
<td>Electives*</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>30 hours</td>
</tr>
</tbody>
</table>
III.4 Possible Electives

III.4.1 Chemistry Electives
Chem 510 Environmental Chemistry*
Chem 505 Inorganic Solution Chemistry
Chem 507 Theory and Application of Spectroscopy
Chem 508 Theory and Application of Chromatography
Chem 511 Selected Topics in Chemistry
Chem 516 Quantum Chemistry
*Must take 2 of these 3 electives

Chem 518 Molecular Spectroscopy
Chem 562 Chemical Toxicology*
Chem 569 Polymer Chemistry*
Chem 630 Electroanalytical Chemistry
Chem 670 Organic Spectroscopy
Chem 671 Bio-Organic Chemistry

III.4.2 Biology Electives
Biol 505 Exp. Design and Bio-Statistics
Biol 511 Pharmacology
Biol 520 Cell Biology
Biol 521 Molecular Biology
Biol 612 Neurochemistry
Biol 651 Proteins: Structure and Molecular Properties

III.4.2 Physics Electives
Phys 563 Math Methods III
Phys 665 Statistical Mechanics
Phys 671 Advanced Electromagnetic Theory
Phys 672 Advanced Electromagnetic Theory 2
Phys 675 Quantum Mechanics I
Phys 676 Quantum Mechanics II

IV. Student Support

Students entering the Department of Chemistry in the Ph. D. or Master of Science in Applied Chemistry program may be offered a Teaching Assistant (TA) or Research Assistant (RA) position from the department or an RA position from a faculty member to conduct research. These positions are available contingent about funding and not all students will receive support from the department or individual faculty members.

(1) All aspects of the student’s academic record will be considered when determining their eligibility for a TA or RA position. This includes:
   (i) Undergraduate or graduate GPA
   (ii) Prior teaching performance inside the department
   (iii) Prior research performance inside or outside the department
   (iv) The students expressed interest in a particular research field

(2) Any student who receives a TA or RA position CANNOT have any employment outside the department

(3) A student found to have outside employment would not be eligible for a TA or RA position until the outside employment has been terminated
   (i) A student who is found to hold outside employment may permanently forfeit their eligibility for TA and RA positions.
   (ii) A student who is found to hold outside employment may be dismissed from the program.
(4) The total compensation for TA or RA positions, as well as the number of positions, from the department will be determined yearly based on the amount of funding available.

(i) Receiving a TA or RA position in no way guarantees a position for the following year.

IV.1 Teaching Assistant (TA) position

A student receiving a TA position is to aid the department in the teaching of lecture and laboratory classes by performing a variety of tasks including:

1) Teaching laboratory or lecture sections
   (i) Students will be limited to a maximum of four (4) courses in any combination of lectures and laboratory sections.
2) Proctoring exams
3) Grading exams
4) Tutoring
5) Holding office hours
6) Any other task the department deems directly related to its teaching mission

IV.2 Research Assistant (RA) position

Research assistant positions are provided to a student to conduct his/her thesis research under the direction of a faculty mentor. This position may be funded by the department, but most often will be supplied directly by the faculty advisor. Students are expected to work full-time in the laboratory of their faculty advisor conducting research that is aligned with the research goals of that group. The faculty member who manages the laboratory will establish the exact tasks, responsibilities and hours for RA’s in his/her laboratory.

1) In the event that the department is supplying RA support, the faculty advisor will be responsible for defining the terms by which the student can work in their laboratory.
2) Students receiving RA may still need to perform minimum amount of TA work based on the department requirement.

V. Academic Honesty and Behavior for Graduate Students

V.1 Academic Honesty Policy

All students will be strictly held to the Delaware State University Academic Honesty Policy, which is as follows:

“Integrity must be practiced in all endeavors and relationships. All acts of dishonesty including, but not limited to, cheating on tests and examinations, plagiarism, unauthorized collaboration, alteration or misuse of college documents, records or identification cards, forgery, misrepresentation, unauthorized use of another’s property, lying, theft, or receiving stolen goods will be considered serious misconduct. Any student violating this policy is subject to dismissal from the University.”

1) Cheating is considered to be copying another students work during an examination, bringing unauthorized materials into an examination or any form of communication with any person who is not the instructor or copying another student’s work on any assignment and presenting it as your own.
2) Plagiarism is the act of intentionally or unintentionally presenting another person’s work as your own. The Office of Research Integrity (ORI) defines plagiarism, in part, as follows:
“As a general working definition, ORI considers plagiarism to include both the theft or misappropriation of intellectual property and the substantial unattributed textual copying of another's work. It does not include authorship or credit disputes. The theft or misappropriation of intellectual property includes the unauthorized use of ideas or unique methods obtained by a privileged communication, such as a grant or manuscript review. Substantial unattributed textual copying of another's work means the unattributed verbatim or nearly verbatim copying of sentences and paragraphs which materially mislead the ordinary reader regarding the contributions of the author.”

The complete definition can be found at ORI Newsletter, Vol 3, No. 1, December 1994 or http://ori.dhhs.gov/policies/plagiarism.shtml

(i) Examples of plagiarism would be:
(a) The verbatim copying of text from any source regardless of citation unless the quoted material is clearly denoted with quotation marks and by changing the margins around the quoted passage.
(b) The rearranging or rewording of text from the literature regardless of citation.
(c) The use of ideas and concepts from the literature without proper citation.
(d) The use of diagrams and figures without proper citation.

(3) The Chemistry Department also considers the falsification or fabrication of research results whether in a laboratory notebook, presentation or publication to be a violation of the academic honest policy.

V.2 Ethics Course Requirements
All students will be required to attend any and all ethics related seminars and courses made available by the department or college. This includes any online course or tutorials that the department deems fit.
(1) When possible, students will be given a certificate for attending these courses that will be kept in their file.
(2) Students completing online courses or tutorials will be required to submit a hardcopy of any documentation or certificate generated from this course to the graduate program director so it can be included in their file.

V.3 Falsification of Research Results
The fabrication or falsification of research results whether in a laboratory notebook, presentation or publication is a major violation.

V.4 Procedure for Possible Violations of the Academic Honesty Policy
Any faculty member who has reason to believe that there are violations of the academic honesty policy will bring their concerns to the graduate program director. The graduate program director will then bring the issue before the graduate committee and present the findings of the faculty member to the committee. The faculty member who raised the claim maybe be present if the committee approves. If the committee feels the situation warrants more investigation, they will call a meeting with the student to discuss the concerns of the faculty and committee. The student will be allowed able to explain the situation and then submit a written rebuttal to the committee within five (5) working days. The committee will then make a recommendation to
the department and present all of the information it has gathered. The department will render a recommendation to the chairperson, who will inform the student of the decision. If the decision is not in the student’s favor, the student is entitled to appeal to the Dean of CMNST. If the Dean upholds the department’s decision, the student may appeal to the Dean of the Graduate School.

V.5 Student Behavior

Graduate students within the Department of Chemistry are expected to exhibit the utmost professionalism. Graduate students are a reflection of the department to the university, students and scientific community. Students who fail to behave in a professional manner will be subject to discipline up to and including dismissal from the program. Examples of unprofessional behavior include, but not limited to: disrespectful treatment of faculty, staff or fellow students, writing threatening or disrespectful emails, threatening the safety or well-being of faculty, staff or students either directly or indirectly, having a friend or family member threaten the safety or well-being of faculty, staff or students either directly or indirectly, failure to honor contracts signed with the department, college or university, falsifying student grades, etc. If a student is believed to behavior in an unprofessional manner, the issue will be brought forward to the graduate program director. The process for discipline be the same as that outlined in section V.4

(1) Any faculty, staff or student has the additional right to report any threat to any law enforcement agency they deem appropriate.

VI. Academic Policies for Graduate Coursework

VI.1 Course Loads

A full-time course load is a minimum of six (6) semester hours. Students enrolled in less than six (6) semester hours are considered part-time students.

VI.2 Academic Probation

Graduate students who do not achieve a cumulative grade point average of 3.0 or greater at the end of a semester are placed on academic probation for the following term. Students who have received two (2) “C” grades will be placed on academic probation.

(1) Students placed on academic probation will be notified in writing from the department

VI.3 Dismissal

Any of the following situations will result in the academic dismissal of a graduate student working toward a graduate degree.

(1) Receiving a grade of "D" or "F" in a graduate course (see graduate catalog);
(2) Failure in achieving a cumulative grade point average of 3.0 or greater while on academic probation (see graduate catalog);
(3) Being placed on academic probation for more than one term (see graduate catalog);
(4) Receiving three (3) or more grades of “C” or lower (see graduate catalog);
(5) Failure to find a research advisor as a Ph. D. student by the end of the third (3rd) semester (see section VIII.1);
(6) Failure to find a research advisor as a thesis MS of Applied Chemistry (thesis) student by the end of the second (2nd) semester (see section VIII.1);
(7) Failure to make satisfactory progress as judged in the yearly reports (see section VIII.4.2);
(8) Failure to attempt the literature review presentation by the end of the fourth (4th) semester (see section VIII.5.5);
(9) Failure to successfully complete undergraduate coursework after failing an entrance exam (see section II.5);
(10) Having outside employment as a full-time Ph. D or thesis MS student (see sections IV and VII.5);
(11) Failure to complete the cumulative exam requirement (see sections VIII.7.6 and VIII.7.7);
(12) Failure to find a faculty advisor within one semester after a student’s previous advisor resigns or a student leaves a research group (see section VIII.2.4);
(13) Failure to conduct him/herself in a professional manner as judged by the department (see section V.5)
(14) Failure to abide by the academic honesty policy of the university (see section V.1)

VI.4 Submitting an Appeal
Appeals concerning dismissal from a graduate program, or reevaluation of a final course grade, should be submitted as follows.

1. Graduate students should file, in writing, the complaint or appeal to the Chair of the graduate committee for resolution. The Chair of the graduate committee shall reply to the student within 10 working days.
2. If the disposition is not favorable, the graduate student may appeal to the Dean of CMNST.
3. If the disposition is not favorable, the graduate student may appeal to the Dean of the Graduate School.

VI.5 Withdrawal from the Graduate Program
A graduate student who wishes to withdraw from the graduate program during the semester must obtain a Withdrawal Form for Graduate Students from the Office of Records and Registration. Withdrawal from the graduate program is complete when all necessary signatures have been obtained. All withdrawals must be completed on or before the last day to withdraw from the University as indicated on the Academic Calendar for each term. All courses enrolled will be assigned a grade of “W”. This policy does not apply to students withdrawing between semesters.

VII. Academic Policies for Candidacy and Graduation

VII.1 Admission to Candidacy
Application for admission to candidacy is to be made after the graduate student is admitted to a specific program and completes all prerequisites for the designated graduate program.

Students pursuing Master degrees (thesis and non-thesis) must complete at least nine (9) hours of graduate coursework with at least a 3.0 cumulative GPA before application for admission to candidacy. No master degree students are allowed to register for a course after completion of fifteen (15) hours at Delaware State University unless he/she has been admitted to candidacy.

Students pursuing Ph.D. degrees must complete the first year of coursework with a
minimum cumulative GPA 3.0 and successfully pass the literature review and meet the cumulative examination requirement in the second year before advancing to candidacy. The literature review should be in an area not directly related to the student’s proposed dissertation work. The presentation will be given publicly and to the student’s literature review committee. Each student in the Ph.D. program has a maximum of 2 attempts to pass the qualifying exam. If a student fails the qualification exam two (2) times, the student will be dismissed from the Ph.D. program. No Ph.D. students are allowed to register for a course at Delaware State University after successfully passing the qualifying exam unless he/she has been admitted to candidacy.

Admission to Candidacy requires that an Application for Admission to Candidacy Form (Appendix C) be submitted to the Dean of the Graduate School. Applications for admission to candidacy must be approved by the departmental chair, the appropriate Program Director/Coordinator (if applicable), and the Dean. The form must be submitted for approval to the Office of the Dean of the Graduate School no later than two semesters prior to graduation. It is the primary responsibility of graduate students to become familiar with the policies and procedures governing admission to candidacy.

VII.2 Degree Requirements and Application for Graduation

In order to earn a graduate degree, a graduate student must satisfy all of the institutional requirements as well as the specified requirements of the program in which he/she is enrolled.

Graduate students who expect to graduate must file an Application for Graduation and Graduate Audit Sheet with the Records Office by October 15 for the degree to be conferred in the spring semester of that academic year. The graduate student must have a cumulative grade point average of 3.0 or higher (on the 4.0 scale) for all work taken on the graduate level. The graduate students must fulfill the requirement of candidacy and (for PhD students) cumulative exams. To have their degree conferred by the end of the spring semester, graduate students must defend their thesis no later than April 15.

VII.3 Time Limitation

For full time students, a maximum of three (3) years is permitted to complete Master degree requirements and a maximum of seven (7) years is permitted to complete Ph.D. degree requirements. For part-time students and full-time students under extenuating circumstances, these time limitations can be negotiated and changes agreed to in writing. Full-time students that (1) do not complete all degree requirements within permitted time periods, and (2) do not negotiate an extension with their Thesis Advisor and Department Chair may be dismissed from the graduate program.

The above policies are adopted from “Policies of the Graduate Programs”. Additional and more extensive information regarding the policies of DSU graduate programs can be found in that document.

VII.4 Entering the Ph. D. Program from the Master Degree Program

Students who are accepted into the Master degree program within the department of chemistry may decide to pursue a Ph. D. within the department. The following requirements must be met to be allowed to transition to the Ph.D. program:

1. The student MUST find a thesis research advisor. This advisor must have the space and funding to support the student.

2. The student must submit a written request to the graduate committee. The committee
will review the request based on the student’s progress toward the Master degree, availability of space and funding to support the student. Being currently enrolled in the Masters degree program does NOT guarantee admission to the Ph. D. program.

If a student that is currently enrolled in the Master Degree program is accepted into the Ph. D. program, the department will not award a master degree. Upon acceptance to the Ph. D. program, the student must meet all of the requirements for the program in a timely manner.

(1) A student accepted into the Ph. D. program from the Master degree program before or during the 3rd semester will immediately move to the Ph. D. degree checklist (Section VII.2) and must complete their candidacy requirements in the 4th semester.

(2) A student accepted into the Ph. D. program from the Master degree program after the end of the 3rd semester must complete the candidacy requirements for the Ph. D. program within six (6) months of acceptance. Failure to do so will result in dismissal from the program. These students will follow the Ph. D. degree checklist (Section VII.2) from the completion of the candidacy requirements moving forward.

A student that has received a Masters degree from the chemistry department at Delaware State University must reapply to the university as if they were a new student to pursue a Ph. D. degree. Completion of the Master’s Degree program, in NO way guarantees the student’s acceptance to the Ph. D. program.

(1) Credits earned in pursuit of the Masters of Applied Chemistry degree at Delaware State University will be used to meet the requirements of the Ph. D. program.

(2) Student accepted into the program after earning their Master of Applied Chemistry degree at Delaware State University must complete their Ph. D. candidacy requirements in the first semester in the Ph. D. program.

(3) Students will follow the Ph. D. degree checklist (Section VI.2) from the completion of the candidacy requirements moving forward.

(4) Students will be treated as a third year Ph. D. student for determining the completion of requirements.

VII.5 Employment as a Full-Time Ph. D. Student

Students who are pursuing their Ph. D. or thesis Master degree on a full-time basis cannot have any form of employment outside of the Department of Chemistry. Having outside employment is grounds for immediate dismissal from the program.

VIII. Academic Policies for Thesis Work and Completion of Degree

VIII.1 Thesis Committee

The department chairperson or the graduate program director of the Chemistry Department advises graduate students before they choose research advisors. A thesis Masters degree student should select a thesis advisor no later than the end of their second (2nd) semester. A Ph.D. degree student should choose a Ph.D. advisor no later than the end of their third (3rd) semester. A Thesis Advisor Form (Appendix A) must be submitted to the graduate program director upon choosing a research advisor.

Students who will be submitting a thesis must select a thesis defense committee. Thesis Master degree students must select a thesis defense committee, in consultation with his/her thesis
advisor, no later than three (3) months prior to the oral defense. A Ph.D. student should choose a thesis committee by the start of the fourth (4th) semester. The thesis defense committee consists of the student’s thesis advisor serving as the chair and at least three additional members. The thesis committee should consist of the research advisor and two (2) other faculty members in the Chemistry Department at the level of assistant professor or above and one (1) additional member in a related field outside the Chemistry Department. The outside member may be a faculty from another department at DSU or another university or a qualified individual with a doctoral degree from government or industry. A Thesis Advisory Committee Form (Appendix B) must be submitted and must be signed by the Program Director and approved by the Dean of the Graduate School.

VIII.2 Thesis Research

To complete the Ph. D. or Master’s (Thesis option) a student must conduct research under the direction of a faculty mentor within the department. Faculty members are under no obligation to advise any students that are accepted into the Chemistry Department. Each faculty member will evaluate whether they feel a particular student is suited to conduct research in their group and that they can effectively advise this student. Once a student is accepted into a group, this student should plan to work with is advisor for the entirety of their thesis research. The faculty advisor sets all of the requirements for conducting research in his/her laboratory this includes but is not limited to: stipend amount, hours required in the laboratory, research projects and duration of Ph. D. or Master’s degree research component.

VIII.2.1 Removal from a Research Group

In extraordinary circumstances, a student may seek another advisor or the faculty member may resign as a student’s advisor. This should be a last resort for both a student and faculty member only to be used when all other options for improving the advisor/advisee relationship have been explored.

1) Student may petition the graduate committee to join a new research group if:
   (i) The faculty member no longer has funding to support the student
   (ii) The faculty member has changed research directions and no long conducts research that relates to the student’s thesis work.

2) The faculty advisor may petition the graduate committee to withdraw as a students mentor if:
   (i) The student is found to be unable or unwilling to conduct research in the faculty member’s laboratory
      (a) The student is found to not have the fundamental chemistry skills required to successful conduct the research.
      (b) The student does not regularly work in the laboratory or attend mandatory group functions such as group meetings and presentations
   (ii) The advisor/advisee relationship is irreparably damaged
      (a) The student no longer takes advisement from the faculty member this may include failing to attend group functions, not conducting suggested experiments or refusing to work toward academic and professional development with the faculty advisor.

VIII.2.2 Petitioning the Graduate Committee to terminate the advisor/advisee
relationship

The graduate committee will work with both the student and faculty member in theses situations to protect the interests of the both the students and faculty. For a student to leave a research group the student must do the following:
(1) Inform their current faculty advisor of their desire to leave the research group
(2) Find a new faculty advisor within the Chemistry Department
(3) Present a written request to the graduate committee detailing the reasons why the student should be permitted to continue his/her research in another group.

For a faculty member to withdraw as the advisor for a student the faculty member must do the following:
(1) Inform the student of their intention to withdraw as their advisor.
(2) Present a written request to the graduate committee detailing why the advisor wishes to no longer advise the student.

VIII.2.3 Possible Actions of the Graduate Committee
The graduate committee will review all of the documentation submitted with the requesting the end of the advisor/advisee relationship and meet with individually with the student and faculty member. The graduate committee will render a decision within in 14 days. This decision will be:
(1) To terminate the advisor/advisee relationship and provide a timeline for the student to leave the group.
(2) That the student is to remain in their current research group and provide a plan of action to repair the advisor/advisee relationship.
(3) That the student is to remain in their current research group.

The faculty member or student can appeal this decision to the chairperson.

VIII.2.4 Consequences of being removed from a research group
(1) The previous advisor will no longer pay the student a stipend immediately
(2) The student must find a new research advisor within three (3) months
   (i) Failure to find a new advisor will result in dismissal from the program
(3) The student must pay their own tuition to enroll for classes until a new advisor can be found

VIII.2.5 Leaving a Research Group
When a student leaves a research group, they must return all research materials to the faculty member in charge of their former laboratory and relinquish all access to the laboratory.
(1) Original copies of notebooks and data must be returned to their former advisor
   (i) The student may keep copies
(2) Any keys must be returned to the faculty member immediately
(3) The student must leave their work area neat and orderly in accordance with their former advisors wishes

VIII.3 Research Outside of the Department of Chemistry
Students may choose to conduct research in collaboration with an outside research mentor
when the Chemistry Department does not have the facilities to adequately support the proposed research. The student will be able to travel to the outside research laboratory and conduct research on-site under the direction of a mentor at that facility. Students who wish to take advantage of this opportunity must meet the following criteria:

(1) The student must have a research advisor in the Delaware State University Department of Chemistry
(2) The student must maintain a 3.0 GPA in all graduate coursework
(3) The student must remain a student in good standing within the department and university.

The establishment of an outside research collaboration MUST be done through the student’s DSU research advisor. At no time is the student to directly contact a possible outside research mentor to inquire about conducting research in their group. The process for allowing a student to conduct research outside the department will be as follows:

(1) The student’s DSU advisor will contact the prospective research mentor and determine if this person is willing and able to serve as a mentor.
(2) The student and DSU advisor will present the proposed research project to the graduate committee.
   (i) The committee will determine if the student should be allowed to pursue the proposed research project based on the following criteria:
      (a) The student’s ability to serve as an ambassador of the Department of Chemistry at this facility;
      (b) The student’s track record within the department including coursework and research;
      (c) The funding available both within the department and at the outside facility to support the proposed research;
      (d) The proposed mentor’s ability to be an active contributor to the development and growth of the student as a scientist
(3) The university and the institution where the prospective research mentor is located will formally agree to allow this research to be conducted.

Once the department formally accepts the outside research mentor, this person will become an active contributor to the development of the student. As a result, the mentor will serve as the co-chair of the students thesis committee and must complete Graduate Student Evaluation Report (Appendix E) on a yearly basis.

VIII.4 Annual Review
All graduate students are required to submit a filled out Graduate Student Progress Report (Appendix D) to their thesis advisors at the end of March every year. This report includes a listing of students’ course grades for the past academic year, a summary of student-stated goals for the next year, and progress on goals from the previous year.

VIII.4.1 Guidelines for the Graduate Student Progress Report
(1) During the first two years, students must complete and submit a Graduate Student Progress Report (Appendix D)
(2) Starting in the third (3rd) year, students must complete and submit a Graduate Student Progress Report (Appendix D) and submit a written 3-5 page report outlining, in
detail, their research progress for the previous year and the research goals in the future.

(i) The document must contain the following sections:
   (a) Introduction – Briefly describes the current “state of the art” in the field
   (b) Results – Explains the results from the previous year with appropriate tables, figures and graphs.
   (c) Future goals – Explains the goals for the research for the coming 12-18 months.
   (d) Conclusions

VIII.4.2 Review of Graduate Student Progress Reports

All thesis advisors are required to file a Graduate Student Evaluation Report (Appendix E) based on student’s Graduate Student Progress Report and student performance and submit both reports to the graduate program director before April 30th every year. This review is designed to provide students with guidelines as to what they must commit to, in terms of performance, to remain and succeed in the graduate program. This will help guide each student and address their strengths and weaknesses, and will facilitate a student’s performance so that they will remain in good standing in the program.

The Graduate Program Committee will review each graduate student’s progress report and his/her thesis advisor evaluation every spring. The advisors’ evaluations will not be revealed to graduate students in any case. In the event that a student is found not to be in good standing, the student and research advisor must meet with the Graduate Programs Committee to discuss potential actions to be taken (for example: deny opportunities to serve as a departmentally funded TA, discontinue RA stipend/tuition waiver benefits, dismissal from the advisor’s lab, or termination from the program).

VIII.5 Literature Review (Ph.D. Candidates)
(Adapted from the guidelines at Tufts University Department of Chemistry)

VIII.5.1 Purpose
Research chemists are often called upon to give an oral presentation of research work. The 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. Breadth and depth in the major field is demonstrated by successfully completing a literature review. An additional purpose of the literature review is to encourage students to use the 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).

VIII.5.2 Literature Review Committee
Students should select a literature review committee. This committee will be tasked with judging the quality of the written document, presentation and accessing the student’s knowledge of the material presented. This committee will consist of THREE (3) faculty members, which MUST include the student’s thesis research advisor.

(1) Each committee member must sign the “Literature Review Committee” form (Appendix F). This form must be completed and submitted to the Chemistry Department at least THREE (3) months before the desired presentation date.
(2) The student’s thesis research advisor will serve as chair of the committee.
(3) The thesis research advisor will offer guidance during the process, though the student must work independently.
(4) The committee chair will serve as the final check to ensure all requirements for conditional acceptance have been met.

VIII.5.3 Content

The subject matter for the presentation must be selected in consultation with the student’s thesis research advisor. Each literature review requires a written and oral presentation that must be presented as a departmental seminar. The written reports must be detailed enough to reflect a thorough graduate-level understanding of the subject and include references to the relevant literature.

VIII.5.4 Presentation

The presentation can be given at any point in the fourth (4th) semester of the student’s graduate studies.

(1) The student is responsible for ensuring that all the literature review committee members are able to attend the literature presentation. This requires the student to work with the committee members to find a date and time that is acceptable.

(2) The presentation must be advertised through the department with fliers and email one week before the presentation is to be given.

(3) The presentation is to be a minimum of thirty five (35) minutes in length and a maximum of forty five (45) minutes in length.

(4) The written document must be submitted to the literature review committee two (2) weeks before the desired presentation date.

VIII.5.5 Completion Date

(1) Students must attempt the literature review before the end of the fourth (4th) semester. A student who has not attempted the literature review by the end of their fourth (4th) semester will be dismissed from the Ph.D. program.

(2) If a student has attempted the literature review but has not successfully completed the requirement by the end of the fourth (4th) 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.

(3) Following each attempt of a literature review, the student must file “Literature Review Completion” form (Appendix G) with the Chemistry Department.

VIII.5.6 Guidelines for Preparing and Presenting the Literature reviews

The student must meet the minimum guidelines listed below in order to complete successfully the literature review requirement.

(1) Written Reports

(i) The written report must be prepared, with adequate attention to style, clarity, organization, and all material (data figures, tables, etc.) thoroughly referenced.

(ii) The literature review must demonstrate a proper reliance on the primary literature and not be drawn principally from the review literature.

(iii) 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. Although
the length of the written report is dictated by the content, the suggested length is
ca. 15-20 pages; the written reports typically cite ca. 20-30 references.
(iv) The literature review must demonstrate a sufficient synthesis of ideas and critical
analysis of the subject matter, and go beyond simple summaries of individual
primary papers. Direct quotes from the literature should be used sparingly and
must always be referenced. Figures copied from the primary sources should also
be thoroughly referenced.
(v) The format of the document and references should reflect the standard in the
student’s field and be agreed to by the thesis research advisor.

(2) The Public Presentation
(i) The oral presentation must be sufficiently detailed and reflect a graduate-level
understanding of the topic. The presentation should be aimed at a chemically
educated general audience, not a lay audience.
(ii) The formal presentation shall be of adequate length (35-45 minutes).
(iii) The oral presentation and responses to questions must be lucid.

(3) General Guidelines
(i) 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 or the student's committee.
(ii) The student must display a familiarity with the relevant experimental or
computational methods presented.
(iii) The student must be able to place the literature review 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.
(iv) Anything the student writes or presents is assumed to have been a product of their
own independent research and reflection, and written in their own words. Thus,
the student should understand and be able to explain any words, formulas, or
concepts, which they use in their written or presented topic.

VIII.5.7 Evaluation
(1) 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
literature review, including experimental details, the research progress report, and any
other subject areas deemed germane by the committee.
(2) The committee will evaluate the student’s performance by the criteria in Literature
Review Grading Guidelines (Appendix H) that summarize the requirements. Each
committee member must grade the student following the guidelines. For a literature
review to be possibly accepted, it must receive an average score of 80 from the
committee. The student is not entitled to see the scores of individual committee
members. If the literature review presentation requirement is not completed by the
end of the probationary semester, the student will be dismissed from the Ph.D.
program.

VIII.5.8 Possible Actions of the Literature Review Committee
(1) Acceptance of literature review presentation.
(2) 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 presentation with no further re-examination necessary.
   (i) Committee members will only sign “Literature Review Completion” form once they are satisfied that with the changes.
(3) Acceptance contingent upon satisfactory completion of major changes. This category requires a re-examination of the corrected document by the committee and/or a repetition of the oral examination.
   (i) Committee members will only sign “Literature Review Completion” form once they are satisfied that with the changes.

(4) Rejection. This action requires the student to prepare a new literature review.

VIII.5.9 Additional Responsibilities of the Student
(1) The student must retain a copy of all forms submitted to the Chemistry Department for their records
(2) The student is responsible for ensuring that all the proposal committee members are able to attend the proposal defense. This requires the student to work with the committee members to find a date and time that is acceptable.

VIII.6.8 Additional Responsibilities of the Student
(1) The student must retain a copy of all forms submitted to the Chemistry Department for their records
(2) The student is responsible for ensuring that all the proposal committee members are able to attend the proposal defense. This requires the student to work with the committee members to find a date and time that is acceptable.

VIII.7 Cumulative Examinations

VIII.7.1 Purpose
These exams are given to Ph. D. students to ensure they have acquired the knowledge required to receive their degree through their coursework and reading of the literature. All PhD students admitted into the program from fall 2014 need to take cumulative exams.

VIII.7.2 Administration of the Examinations
Each exam will cover one of the four major disciplines of chemistry (analytical/environment/biochemistry, inorganic, organic, and physical) broadly defined. These written exams will be constructed and graded by a member of the Chemistry Department faculty. Two exams will be given each semester. Since the exams cover a broad definition of the four disciplines, the faculty member giving the exam must provide information on the material to be tested such as the specific field in the discipline (environmental, group theory, spectroscopy etc.) at least one (1) week before the exam.
   (1) All exams should be 2-4 hours in length
   (2) No outside resources will be permitted
   (3) All exams must be “in class”
   (4) All students must work independently
VII.7.3 Scheduling Examinations

At the start of each semester the graduate program director will post a list of two exams with the covered disciplines, the faculty who will be responsible for making each exam and the date the exam will be given in the chemistry office. Students wishing to take an exam must notify the faculty member responsible for the exam and the graduate program director in writing (email) three (3) weeks before the exam date of their intent to take the exam. If no student contacts the faculty member, the exam will be canceled. If a student notifies the faculty member of their intent to take an exam and then fails to attend without giving two (2) weeks-ahead notice or providing an acceptable justification prior to missing the exam, the student will be barred from taking cumulative examinations for the remainder of the that semester and the following semester.

VIII.7.4 Returning Exams

The exams will be returned to the student no later than one (1) week after the exam date by the graduate program director. The program director will record the result of the exam and keep a copy of the exam on file.

VIII.7.5 Potential Results

The exams will be graded on a 100-point scale with three (3) possible outcomes. Each outcome is awarded a point value and student must accumulate a set number of points to meet the cumulative exam requirement.

(1) Full pass (2 points) – a student receives at least 75 points out of 100 on the exam.
(2) Half pass (1 point) – a student receives between at least 50 but lower than 75 points out of 100 on the exam.
(3) Fail (0 points) – a student receives below 50 points out of 100 on the exam.

VIII.7.6 Requirements for Ph. D. Degree Students

Students seeking candidacy Ph. D. degree program must receive eight (8) points, which must include two (2) full passes during their first two (2) years in the Ph. D. program. A student who fails to meet this requirement will not be admitted to candidacy.

VIII.8 Thesis/Dissertation

NOTE: Please see the University’s policies for formatting of the thesis (font, margins, etc.) in The Thesis and Dissertation Handbook. These requirements are NOT covered below!

VIII.8.1 Master of Science and Ph.D. of Applied Chemistry

The thesis will follow the format outlined in Appendix I and also adhere to all university policies and guidelines for a graduate thesis. The student will write the document under the direction of the thesis advisor and it is expected that all of the research presented and original ideas in the body of the text are the student’s unless otherwise noted. In brief, all theses will contain an abstract, a comprehensive introduction (an up-to-date literature review of the specific field pertaining to the graduate student’s thesis research), a thorough materials and methods section that would allow experiments to be reproduced using the text from the thesis only, a results section and a discussion or conclusions section. References used in writing the document will be cited according to the format used by a peer-reviewed
journal in the chemical sciences field. The references list must include the titles of the sources used. The students and their thesis advisor will decide the particular journal used as a model for the format of citations.

The complete degree thesis will be given to the thesis committee at least two weeks for Master degree and at least four weeks for Ph.D. degree prior to the scheduled defense date. The graduate student will not be allowed to proceed to the oral presentation and defense of the thesis until the thesis committee has been furnished with a complete thesis document. The graduate student will present the thesis/dissertation as an hour-long seminar open to the department and university community. Followed by a closed meeting with the thesis committee for a question and answer session. To pass the thesis defense, all thesis committee members must concur that all conditions for degree conferral have been met. Successful completion of all Master and Ph.D. degrees requires the signatures of all thesis committee members.

If a student pursuing a Master of Science in Applied Chemistry (Thesis) degree has advanced to candidacy but is deficient in one or more critical components of the thesis, the student may have the option of pursuing the Master of Science in Applied Chemistry (Non-thesis) degree offered by the Chemistry Department (see below). If a student pursuing a Ph.D. degree has advanced to candidacy but is deficient in one or more critical components of the dissertation, that student may have the option of pursuing the Master of Science degree offered by the Chemistry Department based on the quality of dissertation and the student’s performance in oral defense.

The following is a partial list of what constitutes a deficient thesis/dissertation for a student who has advanced to candidacy to a degree. These deficiencies are likely to result in a recommendation that the Ph.D. student pursue the Master of Science degree or that the Master of Science (thesis) degree student pursue the Master of Science (non-thesis) degree.

1. The thesis does not contain sufficient data generated by the student in the advisor’s laboratory (or under the guidance of the advisor) as judged by the thesis committee;
2. The thesis is poorly written, referenced and constructed
3. The oral presentation does not thoroughly and clearly describe the thesis with appropriate background and interpretation of results;
4. The oral presentation demonstrates unfamiliarity with the thesis project and/or data presented;
5. Any other clear indication that the student is not familiar with the content and/or subject matter of their thesis project(s).

The following is a partial list of what is likely to require revision of the thesis, but is unlikely to result in a recommendation for a lower degree.

1. The thesis is not in the proper format (outlined in Appendix I);
2. The thesis is not properly cited;
3. The thesis contains minor grammatical and/or syntactic errors.

**VIII.8.2 Grade Assignment for Thesis Work**

Each member in the oral defense committee is required to give an overall grade (in points out of 100) to the student’s thesis work based on the written thesis/dissertation and the student performance in oral defense. The final grade of the thesis work will be assigned based on the average of given points by committee members.
(1) To pass the thesis defense, the student must receive an average score of 80 from the four (4) committee members on both the written document and oral defense.

VIII.8.3 Possible Actions of the Thesis Committee
(1) Acceptance with no changes
(2) Acceptance with minor changes. This action requires the candidate to incorporate the minor changes but requires no further re-examination.
   (i) Committee members will only sign “Thesis Completion” form (Appendix J) once
       they are satisfied that with the changes.
(3) Acceptance contingent upon satisfactory completion of major changes. This category
    requires a re-examination of the corrected thesis by the committee, but no repetition
    of the oral examination.
    (i) Committee members will only sign “Thesis Completion” form (Appendix J) once
        they are satisfied that with the changes.
(4) Rejection of the oral presentation. The written thesis is satisfactory or requires some
    revision, but the oral presentation was not satisfactory. The student must redo the
    oral presentation.
    (i) This will be done in accordance with the wishes of the thesis committee.
(5) Rejection. The student maybe offered the opportunity to rewrite the thesis, be
    awarded a lower degree or given no degree.

VIII.8.4 Responsibility of the Student
The student must file the “Thesis Completion” form with the graduate program director
and complete all of the paperwork required by the School of Graduate Studies and Research.

VIII.9 University Requirements for Graduate Thesis
The thesis, its defense, and all related procedures are to be completed by April 15 for those
planning to graduate at the conclusion of the spring semester.

Graduate students must register for thesis credit hours while working on their thesis. If a
student needs more than one semester to complete the thesis, the symbol "Q" (Thesis continuing)
will be assigned for their thesis grade until the thesis is completed. The student must continue to
register for thesis work (minimum of 3 hours) as long as active work on the thesis continues, or
until the thesis is approved by the Thesis Committee. Upon completion, a letter grade will be
retroactively assigned by the student’s advisor for a maximum of six (6) and
twenty four (24) hours, respectively, toward graduation as a result of thesis work course
registration.

If a student has completed all course requirements and thesis research, but has not defended
their thesis, the student should register for Sustaining Thesis (Chem 698) while completing the
writing and defending of the thesis. Students must be registered and enrolled in the University to
be awarded a degree.

Copies of the finished thesis, which should include changes resulting from the oral
examination along with an approval sheet available from the Office of the Dean of the Graduate
School, shall be distributed by the student in the following manner:
(1) One bound original to the home Department;
(2) One bound original to the University Library;
(3) One bound copy to the Graduate Dean;
(4) One bound copy to the thesis advisor;
(5) One bound copy to the student him/herself.

*Binding must be done by the University library services.*

**VIII.10 Degree Conferral**

Students must have the thesis completed and approved **four** (4) weeks prior to the end of the term in which he/she expects to graduate.
## IX. Graduate Student Checklist

### IX.1 Master of Science of Applied Chemistry (Thesis) Checklist

<table>
<thead>
<tr>
<th>Checkpoint</th>
<th>Activities required</th>
</tr>
</thead>
</table>
| **In the 1\(^{st}\) semester** | ☐ May choose thesis advisor.  
☐ File *Thesis Advisor Form* with the Chemistry Department.  
☐ Take cumulative exams |
| **In the 2\(^{nd}\) semester** | ☐ Choose thesis advisor if not chosen in 1\(^{st}\) semester.  
☐ File *Thesis Advisor Form* with the Chemistry Department.  
☐ Apply for the admission to candidacy. (A student must have completed 9 credits of coursework and received an accumulative GPA at 3.0 or higher.)  
Submit *Graduate Student Progress Report* to the thesis advisor by March 30th. |
| **In the 3\(^{rd}\) semester** | ☐ May choose thesis oral defense committee.  
☐ File *Thesis Oral Defense Committee Name List* with the Chemistry Department for approval. (Thesis oral defense committee should be chosen no later than three (3) months prior to the actual oral defense date.)  
☐ File *Graduate Application for Graduation Form* with the Graduate Dean  
☐ File *Graduate Audit Sheet* with the Graduate Dean.  
☐ (These two documents must be filed no later than Oct. 15) |
| **In the 4\(^{th}\) semester** | ☐ Successfully complete the cumulative exam requirement  
☐ Submit a complete copy of thesis to each thesis oral defense committee member at least 2 weeks before the actual oral defense date.  
☐ The oral defense, thesis revision, obtaining committee members’ signatures, making copies, and submission to the library for binding must be completed before April 15 for graduation in spring semester. |
### IX.2 Master of Science of Applied Chemistry (Non-thesis) Checklist

<table>
<thead>
<tr>
<th>Checkpoint</th>
<th>Activities required</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the 1st semester</td>
<td>☐ Take cumulative exams</td>
</tr>
</tbody>
</table>
| In the 2nd semester | ☐ Apply for the admission to candidacy. (A student must have completed 9 credits of coursework and received an accumulative GPA at 3.0 or higher.)
<p>|                  | ☐ Submit <em>Graduate Student Progress Report</em> to the graduate committee by March 30th. |
| In the 3rd semester | ☐ File <em>Graduate Application for Graduation Form</em> with the Graduate Dean               |
|                  | ☐ File <em>Graduate Audit Sheet</em> with the Graduate Dean. (These two documents must be filed no later than Oct. 15) |
| In the 4th semester | ☐ Successfully complete the cumulative exam requirement                               |</p>
<table>
<thead>
<tr>
<th>Checkpoint</th>
<th>Activities required</th>
</tr>
</thead>
</table>
| In the 1<sup>st</sup> year  | ☐ May choose thesis advisor.  
|                             | ☐ File *Thesis Advisor Form* with the Chemistry Department.  
|                             | ☐ Submit *Graduate Student Progress Report* to the thesis advisor by March 30th.  
|                             | ☐ Take cumulative exams                                                                                                                              |
| In the 2<sup>nd</sup> year 1<sup>st</sup> semester | ☐ Choose thesis advisor if not chosen in first year.  
|                             | ☐ File *Thesis Advisor Form* with the Chemistry Department  
|                             | ☐ Take cumulative exams                                                                                                                              |
| In the 2<sup>nd</sup> year 2<sup>nd</sup> semester | ☐ Choose Thesis Committee and file *Thesis Committee Name List* with the Chemistry Department for approval by the start of the semester.  
|                             | ☐ Successfully complete the Literature Review requirement.  
|                             | ☐ Take cumulative exams                                                                                                                              |
|                             | ☐ Successfully complete the cumulative exam requirement                                                                                              |
|                             | ☐ Apply for admission to candidacy. (A student must have completed the 1<sup>st</sup> year coursework with an accumulative GPA at 3.0 or higher, passed the literature review and cumulative exam requirement.)  
|                             | ☐ Submit *Graduate Student Progress Report* to the thesis advisor by March 30th.  
| In the 3<sup>rd</sup> year | ☐ May complete the research proposal requirement                                                                                                     |
|                             | ☐ Submit *Graduate Student Progress Report* to the thesis advisor by March 30th.  
|                             | ☐ Take cumulative exams                                                                                                                              |
| In the 4<sup>th</sup> year  | ☐ Successfully complete the Research Proposal requirement.  
|                             | ☐ Submit *Graduate Student Progress Report* to the thesis advisor by March 30th.  
|                             | ☐ Take cumulative exams                                                                                                                              |
| In the continuing years     | ☐ Submit *Graduate Student Progress Report* to the thesis advisor by March 30th.  
|                             | ☐ Take cumulative exams                                                                                                                              |
| In the graduating year      | ☐ File *Graduate Application for Graduation Form* with the Graduate Dean the semester before you plan to graduate.  
|                             | ☐ File *Graduate Audit Sheet* with the Graduate Dean the semester before you plan to graduate  
|                             | ☐ Submit a complete copy of thesis to each thesis committee member at least 4 weeks before the actual oral defense date.  
|                             | ☐ The oral defense, thesis revision, obtaining committee members’ signatures, making copies, and submission to the library for binding must be completed before April 15 for graduation in spring semester.  

Thesis Advisor Form

I have agreed to serve as the thesis advisor for _________________________________.

(student name)

I will be mentoring this student for during as he/she pursues the MS of Applied Chemistry (thesis) or Ph. D. of Applied Chemistry.

I currently have or anticipate having the funding, space and time to support this student’s research during the proposed period.

The student will be working on the following project:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

____________________________________________________________

Thesis Advisor                                      Date
THE APPOINTMENT OF AN ADVISORY COMMITTEE FOR
THE MASTER’S/DOCTORAL DEGREE

NAME:___________________________________
Student’s name (Please type or print D#)

Admitted to graduate school in the _______________________ semester of 20____________

Field of Study:______________________________________________

Concentration:_____________________________________________

Option: Thesis____, Non-Thesis____, Dissertation____

Degree:____________________________________________

NOTE: The student is responsible for scheduling a conference with the chair or program director of his/her major
department to nominate an advisory committee. It is the responsibility of the student to present this
appointment form to the department chair or program director and to all committee members for signature and
to file this form with the School of Graduate Studies and Research.

The members of the student’s advisory committee as indicated below were designated during a
conference with the student on________________________.________________________

Date Program Director

Faculty signature affixed below constitute acceptance of the advisory committee assignment. The chair of the
advisory committee or the graduate coordinator is responsible for reviewing the student’s program and ensuring that it
fulfills program requirements.

Committee Names: (Please Type or Print) Committee Signatures:

Chair Advisory Committee Phone number Signature Date
Committee Member Phone number Signature Date
Committee Member Phone number Signature Date
Outside Committee Member Phone number Signature Date

Approved:____________________________________________

Dean, School of Graduate Studies and Research Date
X.3 Appendix C-Candidacy Application Form

DELAWARE STATE UNIVERSITY
SCFHOOL OF GRADUATE STUDIES AND RESEARCH

APPLICATION FOR CANDIDACY FOR THE MASTER’S OR DOCTORAL DEGREE

Student Name: ____________________________ D#________________

Program for which you are applying for admission to candidacy ____________________________

Concentration (if applicable) _____________________________________________________________

Bachelor’s Degree ____________________________________________________________ Date________

  • College/University__________________________________________________________
  • Location__________________________________________________________ Date_________

  City State Zip

Complete the following if applying for the Doctoral Degree:

Master’s Degree ________________________________ Date________

  • College/University__________________________________________________________
  • Location__________________________________________________________ Date_________

  City State Zip

The proposed title for my Master’s Thesis/Doctoral Dissertation (if applicable) is: ___________

________________________________________________________________________

I have completed all of the prerequisites for admission to candidacy, undergraduate as well as graduate. My transcripts of undergraduate and graduate credits are on file with the Dean of the School of Graduate Studies and Research. The attached program of study has been planned with the guidance of the chair of my advisory committee or with the graduate coordinator in my program. In addition, I have met all the condition of my admission.

________________________________________________________________________

Applicant Signature Date

Approved by:

__________________________________________ _______________________________________

Committee Chair (Print) (Signature) Date

__________________________________________ _______________________________________

Program Director (Print) (Signature) Date

__________________________________________ _______________________________________

Dean, School of Graduate Studies and Research Date

-For Graduate School Official Use Only-

Program checked against catalog requirements_____ Graduate grade point average____
X.4 Appendix D – Graduate Student Progress Report *(When file, type only)*
After the second year, also submit the written document (Section VIII.4.1)

**Graduate Student Progress Report**
The Chemistry Department, Delaware State University

<table>
<thead>
<tr>
<th>Student:</th>
<th>Advisor:</th>
<th>Date:</th>
</tr>
</thead>
</table>

**List all courses taken in the previous academic year.**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credit hours</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
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</table>

**List progresses towards previous goals.**

**Goals for the next academic year.**

**Other accomplishments (papers submitted, presentations, honors and awards.)**

Student Signature: ___________________________. Date: _____________.
### Graduate Student Evaluation Report

The Chemistry Department, Delaware State University

<table>
<thead>
<tr>
<th>Student:</th>
<th>Advisor:</th>
<th>Date:</th>
</tr>
</thead>
</table>

**Rank the student from 1 to 4 (1 = poor; 2 = marginal, 3 = good, 4 = superior); and write comments as needed. If the student is given a 1 or 2, make suggestions to improve.**

<table>
<thead>
<tr>
<th>Question</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the student making adequate progress?</td>
<td>____/4</td>
</tr>
<tr>
<td>Is the expected date of completion realistic?</td>
<td>____/4</td>
</tr>
<tr>
<td>Is the student upholding your workload expectations?</td>
<td>____/4</td>
</tr>
<tr>
<td>Does the student show up for work on time, and is in the lab on a daily basis, unless an excused absence has been arranged?</td>
<td>____/4</td>
</tr>
<tr>
<td>Are the student’s communication skills acceptable? (i.e. responds to email and phone calls in a regular and timely fashion, effectively communicates research progress, willingness to discuss research effectively with other committee members and / or collaborators, etc.)</td>
<td>____/4</td>
</tr>
<tr>
<td>Does the student maintain proper lab etiquette (clean workspace, attention to detail, lab safety, lab books organized and detailed)?</td>
<td>____/4</td>
</tr>
<tr>
<td>Does the student maintain good research records (datasheets and analyses are well-organized and labeled and easy to follow, photos are properly labeled, etc.)?</td>
<td>____/4</td>
</tr>
<tr>
<td>Does the student exhibit collegiality towards others students and faculty members (willingness to help participate with other projects)?</td>
<td>____/4</td>
</tr>
<tr>
<td>Is the student becoming an independent thinker; able to troubleshoot problems in the lab, and able to effectively expand his/her knowledge on the project?</td>
<td>____/4</td>
</tr>
<tr>
<td>Is the student developing scientific writing skills; demonstrated by thesis proposal, grant and manuscript writing?</td>
<td>____/4</td>
</tr>
</tbody>
</table>

**Future goals for this student:**

**Concerns that need to be brought to the graduate program committee:**

Advisor Signature: __________________________ Date: ______________.
The following faculty members have agreed to serve as the proposal committee for ______________________. I acknowledge that the proposal defense date CANNOT be scheduled until THREE (3) months after the date of the last signature.

__________________________                                     _______________
Student                                      Date

Proposal Committee Members

__________________________                                     _______________
Proposal Mentor                                 Date

__________________________                                     _______________
Committee Member                                 Date

__________________________                                     _______________
Committee Member                                 Date
X.7 Appendix G – Literature Review Completion Form

Literature Review Completion

After reviewing both the written literature review document and presentation the proposal committee recommends the following action the proposal presented by ___________________________ on ___________________________ Date

Title of literature review: ____________________________________________________________

☐ Acceptance of proposal.
☐ Acceptance with minor changes
☐ Acceptance contingent upon satisfactory completion of major changes
☐ Rejection

Proposal Committee Members

The proposal mentor will not sign this document until all required changes, if any, have been satisfactorily completed.

__________________________                                     _______________
Proposal Mentor                          Date

__________________________                                     _______________
Committee Member                          Date

__________________________                                     _______________
Committee Member                          Date
X.8 Appendix H – Literature Review Grading Guidelines

Literature Review Grading Guidelines

Written Document: 50%

Introduction (10 pts):
- Provides a clear and concise summary of the literature relevant to material being presented
- Outlines the “prior art” in the field

Body (20 pts):
- Goes into sufficient detail to demonstrate a deep understanding of the material
- Draws examples from the primary literature, not just review articles
- Explains how the reactions/methods being covered compliment and expand the “prior art” in the field
- Clearly explains reported results that maybe unexpected or unique. Goes beyond the explanation provided by the authors and does additional research.

Conclusion (5 pts):
- Summarizes the development of the field as a whole and identifies new possible applications and directions for the presented research

Overall Document Quality (15 pts):
- The document must be free of typos, spelling and grammatical errors
- This document is formal and should not contain slang, contractions or other inappropriate word choice.
- Figures and tables MUST be neat and properly labeled and numbered.
- Figures and tables that are in the document must be properly discussed and referenced in the text
- All sources are properly referenced
X.8 Appendix H – Literature Review Grading Guidelines (continued)

Oral Presentation 50%

Slide Construction (10 pts):
- Slides contain no or minor typographical errors
- Slides are neat and clear
- Slides do not contain an inordinate amount of text
- Figures are the correct size, labeled clearly and located properly

Presentation (20 pts):
- Presenter makes eye contact with the audience regularly
- There are no long pauses or use of filler words.
- Presenter does not read presentation completely from note cards
- Good flow is maintained and the presenter is able to transition smoothly between slides
- Presenter is confident and displays a mastery of the material
- The presenter utilizes the slides to illustrate points effectively

Presenter’s appearance and mannerisms (5 pts):
- Professional Attire
- No nervous movements (playing with keys, rocking or similar)

Questions (15 pts):
- The presenter is able properly handle questions. This includes being able to answer the questions or properly and respectfully state they are unsure of the answer
- Committee Members will be able to ask ANY question that relates to chemistry and your literature review. Committee members will work to keep questions related to the topic presented, but basic knowledge (i.e. undergraduate concepts) that relates in anyway maybe asked.
- The student must be able to quickly come to the answers as long drawn out pauses will be looked at poorly.
X.9 Appendix I – Thesis Structure and Grading
Written document 50%

Title: Should be concise but informative.

Abstract (5 pts): In a single brief paragraph, present the problem; strategies to be used in executing the research; results; conclusions/discussion. This should be a comprehensive summary of your entire thesis.

Introduction (5 pts): Present the thesis question concisely with appropriate references; describe the goals of your project and how you have contributed to prior work referenced above; describe if there was success of the thesis proposal goals; include a short statement on the overall organization of the thesis. This section should be a summary of previous work that led to the thesis question and should also contain the core hypothesis/hypotheses of the thesis.

Literature Review (5 pts): (Should be written before work actively starts as it may be a safety net for those who do not qualify for an MS.) Vividly present an up-to-date background of the research outlining progress that has been made so far; include criticisms of various authors (this should not be a ‘copy-and-paste’ exercise); references here and elsewhere in the text should be consistent. During your oral presentation, you may be asked questions from your literature review. Therefore, you should understand what you are quoting.

Materials and Methods (10 pts): A clear and concise description of the methods used in the experiments. In all cases, the experiments should include controls—negative and positive—and include replicates. Present analysis programs used; major equipment used including manufacturer and location.

Results and Discussion (15 pts): Present results using figures, graphs or tables concisely and use them in clearly describing trends observed. Include results that did not succeed; there should however be no discussion of the results here. Raw data may be included in the Appendix. Present theories related to the results obtained. Relate results to previous work in the area of research; discussions should include both aspects of the work that succeeded and aspects that did not succeed or could have been done better. Uncertainties in the experiments should be discussed; discussion may include comparing the results to previous work.

Conclusions (5 pts): Summarize the work discussed.

References (5 pts): Cite all the sources from the literature that are included in the document. List of references must be consistent. References used in drafting this document will be cited according to the format used by a peer reviewed journal in the life sciences field. The references list must include the titles of the sources used. The student and their thesis advisor will decide the particular journal used as a model for the format of citations.

Figures: Figures must be of high quality with all the essential details clearly observable. They must include a figure title and figure legend and should be self-explanatory. Figures adapted
from other sources must include a reference to that source.

Appendix: Raw data should be presented in appendices and a summary in the main text where necessary.

Oral Presentation 50%

Slide Construction (10 pts):
- Slides contain no or minor typographical errors
- Slides are neat and clear
- Slides do not contain an inordinate amount of text
- Figures are the correct size, labeled clearly and located properly

Presentation (10 pts):
- Presenter makes eye contact with the audience regularly
- There are no long pauses or use of filler words.
- Presenter does not read presentation completely from note cards
- Good flow is maintained and the presenter is able to transition smoothly between slides
- Presenter is confident and displays a mastery of the material
- The presenter utilizes the slides to illustrate points effectively

Presenter’s appearance and mannerisms (5 pts):
- Professional Attire
- No nervous movements (playing with keys, rocking or similar)

Questions (25 pts):
- The presenter is able properly handle questions. This includes being able to answer the questions or properly and respectfully state they are unsure of the answer
- Committee Members will be able to ask ANY question that relates to chemistry and the thesis. Committee members will work to keep questions related to the thesis, but basic knowledge (i.e. undergraduate concepts) that relates in anyway maybe asked.
- The student must be able to quickly come to the answers as long drawn out pauses will be looked at poorly.
- This is a chance for the student to demonstration his/her expertise in the field
X.10 Appendix J – Thesis Completion Form

Thesis Completion

After reviewing both the written thesis and oral defense the thesis committee recommends the following action the thesis presented by __________________________ on

Date

Title of thesis:_______________________________________________

___________________________________________________________

☐ Acceptance of thesis.
☐ Acceptance with minor changes
☐ Acceptance contingent upon satisfactory completion of major changes
☐ Rejection of the oral defense
☐ Rejection of thesis

Thesis Committee Members

The thesis committee chair will not sign this document until all required changes, if any, have been satisfactorily completed.

__________________________________________  ________________________
Committee Chair                            Date

__________________________________________  ________________________
Committee Member                          Date

__________________________________________  ________________________
Committee Member                          Date

__________________________________________  ________________________
Committee Member                          Date
Notes