POLICIES AND PROCEDURES

Chemistry and Biochemistry M.S. Program

Charles E. Schmidt College of Science, Florida Atlantic University

1. PROGRAM DESCRIPTION

The Master's Program in Chemistry is administered by the Department of Chemistry and Biochemistry, a member of the Charles E. Schmidt College of Science (CESCoS) at Florida Atlantic University (FAU). The Program incorporates cross-disciplinary approaches to research and education in chemistry and biochemistry. Current faculty research strengths lie in the broadly defined areas of organic, medicinal and biological chemistry, biochemistry, biophysical chemistry, biomedical and materials sciences. The Program is also aligned with the University's strategic foci in neuroscience, healthy aging, disease intervention, ocean science and engineering/environmental sciences, and sensing and smart systems. While the student's Thesis research may be highly focused in one of the sub-disciplines, the program curriculum will provide a context for viewing this research in light of its relationship to other disciplines. Diversity is a fundamental value of the FAU, and our Department and Graduate Program in Chemistry welcomes students from all backgrounds. We value and celebrate diversity, race, ethnicity, culture, and unique differences among our students and faculty. Our graduate students are encouraged to excel in their graduate studies, to enhance their passion for science and research and to contribute to both the scientific community and society.

A. Program Administration

i. The Chemistry and Biochemistry Master's Program ("Program" herein) is administratively housed in the Department of Chemistry & Biochemistry in the Charles E. Schmidt College of Science at the Boca Raton Campus.

ii. The Program shall remain consistent with all aspects of the educational policies of FAU. All policies and procedures outlined in the Graduate College Governance Document and the Graduate Policies for the CESCoS Document shall apply to the Program.

iii. A Graduate Program Committee ("Graduate Committee") consisting of no fewer than three Graduate Faculty members is the governing body of the Program.

iv. The Chair of the Graduate Committee ("Graduate Chair") is appointed by the Dean of the CESCoS. The Graduate Chair is a tenured professor whose term of appointment is for five years. The term for the rest of the Graduate Committee members is five years.

v. The Graduate Committee is responsible for establishing academic policy pertaining to the Program, curriculum development and oversight, overall program evaluation, due process and administration, approval of Research Advisors and Supervisory Committee members, and program admissions.

vi. The Graduate Chair and two members of the Graduate Committee shall constitute a quorum. In the event of a tie vote, a motion is deemed defeated unless the Graduate Chair elects to place the matter before the Graduate Faculty of the Department, whose majority decision is binding on the Graduate Committee.

B. Program Faculty

i. As defined in the FAU Graduate College Governance Document, the four levels of graduate faculty are:

- Graduate Faculty may teach graduate courses, serve on and chair M.S. and Ph.D. Supervisory Committees, and serve on committees that oversee graduate programs.

- Associate Graduate Faculty may teach graduate courses and serve on and chair M.S. Supervisory Committees, but not Ph.D. Supervisory Committees.
- Graduate Lecturers may teach graduate courses but cannot serve on M.S. or Ph.D. Supervisory Committees.
- Graduate Faculty Emeriti may teach graduate courses, serve on and co-chair M.S. and Ph.D. Supervisory Committees, and serve on committees that oversee graduate programs.

ii. Only Graduate Faculty, Associate Graduate Faculty, and Graduate Faculty Emeriti (henceforth collectively referred to as "Graduate Faculty") may serve on and/or chair or co-chair M.S. Supervisory Committees.

iii. A Graduate Faculty member in Chemistry is appointed by a vote of the Department Graduate Faculty, and approved by the Department Chair, CESCoS Dean or Designee, and the Graduate College Dean.

iv. A person nominated for appointment as Graduate Faculty must meet the following minimum criteria:

- Hold the rank of Assistant Professor or above (clinical, research scientist/faculty, and affiliate research faculty inclusive). Under exceptional circumstances, faculty members with a comparable level of expertise may apply for status as Graduate Faculty;
- Hold the terminal degree suitable for contributing to the program or show a comparable level of attainment through experience as determined by the Graduate Committee of the program;
- Be actively involved in scholarly or creative activity, graduate teaching or graduate mentoring.

v. Eligibility for appointment to the Chemistry Graduate Faculty is based on demonstrated productivity in the areas of graduate education and research through advising Doctoral students and conducting research and related scholarly activities with a record of recent publications in peer-reviewed scientific journals. Graduate Faculty shall ordinarily be expected to have active, internally and extramurally funded research programs in order to Chair a M.S. Supervisory Committee.

vi. For faculty members newly appointed to FAU, appointment to the Graduate Faculty of the Program is through application to the Department Chair and can coincide with the time of the member's first faculty appointment at FAU. To be appointed, the prospective faculty member shall submit a written request for such appointment to the Department Chair, together with current curriculum vitae that includes appointment and rank at FAU and credentials as an independent scholar in the conduct of scientific research.

vii. Affiliate Faculty are non-FAU employees who may be appointed as Graduate Faculty, Associate Graduate Faculty, or Graduate Lecturers, and at most can only co-chair M.S. and Ph.D. Supervisory Committees. The appointment requires a vote by the Department Graduate Faculty and approval by the Department Chair, the CESCoS Dean or designee, and the Graduate College Dean. Non-FAU employees must apply for and be granted an Affiliate Faculty appointment prior to (or concurrently with) being considered for a Graduate Faculty, Associate Graduate Faculty, or Graduate Lecturer appointment.

viii. Affiliate Graduate Faculty applicants are nominated by a Department of Chemistry and Biochemistry Graduate Faculty member. The nomination is accompanied by the applicant's current curriculum vitae that establishes the applicant's credentials as an independent scholar in the conduct of scientific research in areas complementing those in the Department. The Affiliate Graduate Faculty applicant will also be required to deliver a Departmental seminar.

ix. The term of all appointments to the Graduate Faculty in Chemistry is five academic years.

x. All Graduate Faculty appointments may be renewed by the Graduate Committee, subject to demonstration by the faculty member of research productivity and other criteria as outlined in item 1.B.v. above.

2. ADMISSION REQUIREMENTS

A. Application Deadlines

i. Student applications are accepted for the Fall and Spring admission cycles. The completed applications must be received by April 15th (domestic) & February 15th (international) for Fall and November 1st (domestic) & July 15th (international) for Spring.

ii. The Graduate Committee shall meet after each deadline and select candidates for recommendation to the Graduate College. The Graduate Committee makes the final decision in accepting all applicants to the Program. A majority vote is required for an applicant to be admitted.

B. Minimum Admission Criteria

i. Bachelor of Science degree in a field of chemistry or biochemistry, or other chemistry-intensive degree (e.g., Chemical Engineering or Pharmacy) that includes General Chemistry, Organic Chemistry, Instrumental Analysis, Quantitative Analysis, and Physical Chemistry, all with associated laboratory courses.

ii. Minimum 3.0 GPA in a chemistry or chemistry focused degree, or scores of at least 150 (verbal) and 152 (quantitative) on the Graduate Record Exam. We note that these are minimum requirements that do not ensure admission into the Program. Exceptions to these minimum requirements may be made at the discretion of the Graduate Committee.

iii. Academic transcripts are strictly required, as are letters of recommendation. The Graduate Committee strongly advises applicants to solicit meaningful and detailed letters of recommendation from the appropriate teachers and mentors.

iv. Prior undergraduate research experience may be an advantage for admission to the Program.

v. Strength of letters of recommendation and personal statement are major admission criteria.

vi. International students whose native language is not English must demonstrate competency in spoken English by completing either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System

(IELTS). The minimum requirement for TOEFL is 550 on the paper-based test (TOEFL PBT), 213 on the computer-based test (TOFEL CBT), or 79-80 on the internet-based test (TOEFL iBT). The minimum requirement for IELTS is a score of 6.5.

vii. Acceptance into the Program is based on stringent criteria and generally only the most highly qualified candidates among the pool of applicants shall be selected. The Graduate Committee's admissions decisions are final.

C. Orientation for Incoming Chemistry Graduate Students

i. In the week prior to the beginning of the fall and spring semesters all new chemistry graduate students are required to participate in the following as part of the orientation schedule:

- Chemistry Competency Exams (Analytical, Organic, and Physical)
- Chemistry graduate student advising session and class registration
- Chemistry Safety Orientation
- General Chemistry labs orientation (if assigned as a General Chemistry TA)
- Chemistry Department welcome reception
- Graduate College student orientation
- All international graduate students who wish to become graduate teaching assistants at FAU must successfully complete the Seminar for International Teaching Assistants (SITA). See the following website for details (https://www.fau.edu/international/internationalassistants.php)

ii. A detailed orientation schedule shall be sent to all incoming graduate students 2-3 weeks prior to the beginning of the new semester.

3. FINANCIAL ASSISTANCE

i. Each M.S. student must be a registered full-time student.

ii. Students are strongly discouraged from outside employment as this will likely conflict with the Program expectations. M.S. students are supported by either a Teaching Assistantship (TA) or a Research Assistantship (RA). All students accepted into the program and supported by TA or RA stipends will receive a tuition waiver.

iii. Students must have full time status to be eligible for the tuition waiver.

iv. M.S. students are eligible to receive health insurance benefits at a reduced cost. See the Graduate College website for details.

v. TA and/or RA support (including tuition waiver) generally can be expected for three years. However, support beyond three years is subject to approval by the student's Supervisory Committee and the Graduate Committee. All TA and RA assignments require the approval of the Graduate Committee.

4. DEGREE REQUIREMENTS

A. Course Requirements

i. The following table lists the minimum course requirements for the M.S. degree. In addition to the courses listed in the table, M.S. students may be required to earn Graduate Research (CHM 6918) credits prior to earning Master's Thesis credits.

Introduction to Chemical Research (CHM 5944)	1
Instrumentation (CHM 6157)	3
Kinetics and Energetics (CHM 6720)	3
Synthesis and Characterization (CHM 6730)	3
Graduate Elective Courses	9
Graduate Seminar (non-thesis) (CHM 6935)	1
Master's Thesis (CHM 6971)	10
Minimum Degree Total	30

ii. Depending on their performance on the Competency Exams (see 2.C.i. above), students may be required by the Graduate Committee to enroll in remedial coursework. Students must earn a grade of B or better in each required remedial course to successfully fulfill the requirement.

iii. Students must complete Introduction to Chemical Research (CHM 5944) within the first two semesters.

iv. Students must present a non-thesis seminar before the end of the second year of their program. Details of the seminar will be established by the faculty in charge of this course (CHM 6935). The subject of this seminar must be distinct from the subject of the student's thesis research, but may be within the student's discipline or sub-field.

v. A limited number of Graduate Research (CHM 6918) credits (if taken) may be counted in lieu of Master's Thesis credits, subject to approval by the Graduate Chair, the College of Science Dean (or designee), and the Graduate College Dean. In such cases a Form 10 (request to waive a university requirement) must be completed and submitted by the student along with an accompanying letter detailing the request.

vi. Elective courses may be from other Colleges within FAU, if appropriate. The selection of the electives must be approved by the student's Supervisory Committee.

vii. Only one elective course may be at the 5000-level with the remaining at the 6000-level.

viii. The Supervisory Committee may require that a student complete more than three electives (but no more than five in total). The grades from these additional electives will count towards the student's GPA. The determination that all course work is completed is made solely by the student's Supervisory Committee.

ix. If students have previously completed graduate-level courses these may be considered as a substitute for one or more core or elective courses with permission from the Graduate Committee.

x. Students must maintain a GPA of at least 3.00 in their course work, in keeping with University-wide requirements. Failing this, the student must complete and submit an Academic Progression Plan (Form 11) with the assistance of the Research Advisor and the Graduate Chair.

xi. Students must receive satisfactory grades in the Graduate Research and Master's Thesis credits to continue in the Program. Failing this, the student must complete and submit an Academic Progression Plan (Form 11) with the assistance of the Research Advisor and the Graduate Chair.

B. Plan of Study

i. An electronic Plan of Study shall be completed by the student and filed with the Graduate College by no later than the end of the first year of study. Students should seek assistance from the Graduate Chair when completing their POS for the first time.

ii. The student must register for courses each semester in compliance with the approved Plan of Study. If a change of course selection is required the Plan of Study must be updated online and submitted for approval prior to course registration.

iii. The typical full-time load is 9 credits in fall and spring semesters and 6 credits in the summer. Less than these numbers of credits may constitute full-time status with the approval of the Graduate Chair, the College of Science Dean (or designee), and the Graduate College Dean.

C. Supervisory Committee

i. The Graduate Chair shall assist the student in finding a home lab. The student must submit the Research Advisor Approval Form to the Program Office immediately after choosing the Research Advisor. **The final decision about the student's choice of Research Advisor must be approved by the Graduate Committee.**

ii. Students may choose to do lab rotations in their first semester only in consultation with the Graduate Chair.

iii. Students must have chosen a Research Advisor and established the Supervisory Committee by the end of the first year. If they have not found an advisor and established the Supervisory Committee by this time, they may be dismissed from the program. Students in this situation are urged to seek the advice of the Graduate Chair.

iv. The Supervisory Committee must have at least three members, two of whom are members of the Chemistry and Biochemistry Graduate Faculty. One committee member may be from outside the Department of Chemistry and Biochemistry and have Graduate Faculty status.

v. The Supervisory Committee shall be formed by the end of the student's first year.

vi. The Supervisory Committee is chosen by the student's major Research Advisor in consultation with the student.

vii. All Supervisory Committee members, including the student's major Research Advisor, must be approved by the Graduate Committee and the Department Chair. **The Department of Chemistry and Biochemistry Supervisory Committee Approval Form must be completed, signed and submitted to the Graduate Chair as soon as**

the Supervisory Committee is formed and <u>prior to</u> the first Supervisory Committee meeting.

viii. If the major Research Advisor is a non-tenured faculty member, at least one member of the Supervisory Committee must be at the rank of a tenured Associate or Full Professor.

ix. The first Supervisory Committee meeting must be held no later than the first semester of the second year. If by this time the student has failed to assemble an approved Supervisory Committee the student may be dismissed from the program. The student must meet with his/her Supervisory Committee at least once per year thereafter. **The Department of Chemistry and Biochemistry Graduate Student Milestone Chart must be completed, signed and submitted to the Program Office after each Supervisory Committee meeting**.

x. Following all Supervisory Committee meetings, the student's Research Advisor will indicate whether progress is satisfactory or unsatisfactory on the Milestone Chart and in the grades given for Graduate Research or Master's Thesis.

xi. The student will be required to attend the annual review session of the milestone chart at the beginning of the fall semester. The Graduate Chair shall send out a reminder once a year (in the fall semester) regarding the Milestone Chart; it is the student's responsibility to ensure that the Program Office receives the current Milestone Chart. Failure to do so may lead to a "U" grade for research and possible further disciplinary action.

xii. If a Supervisory Committee member resigns from the institution, the Chair of the Supervisory Committee shall appoint a new member, subject to approval by the Graduate Committee.

xiii. If the Chair of the Supervisory Committee resigns from the institution, he/she shall ensure that the thesis research is completed. An FAU Graduate Faculty member shall be appointed as a co-advisor for the student by the Graduate Chair.

xiv. While no specific limit is established for the number of graduate students each Research Advisor may have, the record of the Advisor (publications, graduate students successfully trained, grant funding, etc.) shall be considered by the Graduate Committee decision when deciding whether to approve the student's choice of Research Advisor.

D. Thesis

i. Students must write a thesis describing their research, which must be approved by the Supervisory Committee. The thesis must be successfully defended by the student in an oral exam administered by the Supervisory Committee.

ii. The thesis research shall be conducted under the guidance of the student's Supervisory Committee. Students are expected to meet with the Advisor and other Committee Members on a regular basis as the research proceeds.

iii. The Plan of Study must be updated and submitted to the Graduate College one semester in advance of the thesis defense.

iv. At the beginning of the semester that the student is planning to defend the thesis, the student must obtain permission in writing from the Supervisory Committee to schedule the defense and <u>must</u> inform the Graduate Chair.

v. In the semester that the student plans to defend the thesis the student must be enrolled in at least one credit of Master's Thesis (CHM 6971) and submit the Application for Degree form in accordance with the FAU deadlines.

vi. Students not meeting the College and University deadlines shall not graduate in the same semester of the defense.

vii. A written draft thesis that follows FAU guidelines for formatting shall be submitted by the student for review by the Supervisory Committee at least two weeks prior to the defense.

viii. It is permissible for M.S. candidates to adapt their published works for inclusion in their thesis provided that such insertion follows the norms for thesis writing and FAU formatting guidelines.

ix. It is strongly encouraged that research from the thesis result in at least one peer-reviewed publication (or in press) at the time of the thesis defense.

x. The candidate must announce his/her thesis defense at least two weeks in advance to the Graduate Chair by email.

xi. The results of the thesis research shall be presented in a public forum to which faculty and students of the Program, as well as other interested parties, are invited.

xii. Following the public presentation, the student shall defend the thesis in a public forum. Subsequently, the candidate shall defend the thesis in a closed meeting with the Supervisory Committee.

xiii. At this meeting, the Supervisory Committee shall vote on approval or disapproval of the thesis. The Committee's decision must be unanimous for approval.

xiv. In some cases, the thesis may be provisionally approved, pending corrections of deficiencies outlined by the Supervisory Committee. Any revisions must be unanimously approved by the Supervisory Committee.

xv. If the Supervisory Committee is not satisfied with the thesis defense, the student may have a chance to repeat the defense one time only, and only if the Supervisory Committee unanimously agrees to allow the defense to be repeated. The student shall address any stated deficiencies in the thesis and re-defend it in the following semester.

xvi. If at least one member of the Supervisory Committee has decided that the thesis is unsatisfactory and may not be rewritten, the student will not be allowed to repeat the defense. The student will be dismissed from the Program.

5. DUE PROCESS

i. Students may be dismissed from the Program for a variety of reasons that include failure to meet the stipulations of an approved Academic Progression Plan (APP), failure to make sufficient progress towards the degree, failure to successfully defend the thesis, or failure to adhere to FAU's Student Code of Conduct Regulations.

ii. Dismissal from the Program shall follow the procedure for academic dismissal as outlined in the Provost's Office Memorandum entitled "Academic Dismissal of Students from a Graduate Degree Program".

iii. If the student wishes to make a change of Research Advisor, he/she shall first obtain approval from the Department Chair and the Graduate Chair. Approval shall be granted

subject to availability of funds in the prospective Research Advisor's laboratory and the suitability of the Research Advisor's area of research. It should be noted that change of the Research Advisor may significantly extend the time required to successfully complete all the requirements for the degree.

iv. Upon strong justification to the Graduate Committee, a Research Advisor may elect to resign from the Chair position of a Supervisory Committee. In such cases, the student will be allowed one semester to identify a new Research Advisor and establish a new Supervisory Committee. This change must be approved by the Graduate Committee.

v. The student may request a change of a Supervisory Committee member to the Graduate Chair; a written justification is required.

vi. The student shall have the right to petition to the Graduate Committee to review any grievance. The student shall provide justification in writing to the Graduate Chair.

vii. The student shall have the right to petition the Graduate Chair for a leave of absence due to illness or other unforeseen circumstances; The Graduate Chair may grant a leave of absence for a limited period.

6. SAMPLE SCHEDULE OF PROGRESS TO DEGREE

The following is a recommended timeline to assist students in making satisfactory progress toward completion of the degree. Students should aim to complete all degree requirements, apart from thesis credits, within the first four semesters and to finish the degree within three years.

Year 1

1) First semester: Intro. To Research (CHM 5944); two courses; gain admission to a research laboratory; discuss a program of courses with your Research Advisor. Your elective courses should be chosen to strengthen your background in your selected field of research.
2) Second semester: take two additional courses and start research (develop research objectives); Complete your Plan of Study; Choose your Supervisory Committee in consultation with your Research Advisor.
3) Third semester: one course; continue research; first meeting with Supervisory Committee.

Year 2

1) First semester: one course; non-thesis seminar (CHM 6935); continue research
2) Second semester: continue research
3) Third semester: continue research; write thesis

Year 3

1) First semester: write and defend thesis

It is generally expected that students graduate within three years. Students may be eligible to graduate earlier subject to the approval of their Supervisory Committee. Students not finished

within three years will have their matriculation in the program re-evaluated by the Graduate Committee and must petition for continuance.

7. KEY FORMS AND DOCUMENTS

The following is a list of forms and other documents that are relevant to graduate students. All are available online through the Graduate College website www.fau.edu/graduate.

- **Graduate College Governance Document**, http://www.fau.edu/graduate/forms-and-procedures/policies-and-procedures.php
- **Graduate Policies for the Charles E. Schmidt College of Science** (CESCoS), http://www.fau.edu/graduate/forms-and-procedures/policies-and-procedures.php
- **Plan of Study**, http://www.fau.edu/graduate/forms-and-procedures/degree-completion/plan-of-study.php
- **Request to Waive a University Requirement (Form 10)**, http://www.fau.edu/graduate/forms-and-procedures/index.php
- **Academic Progression Plan (Form 11)**, http://www.fau.edu/graduate/forms-and-procedures/index.php
- **Graduate Equivalent Full Time Status Waiver (Form 14)**, http://www.fau.edu/graduate/forms-and-procedures/index.php
- **Graduate Withdrawal Form (Form 15)**, http://www.fau.edu/graduate/forms-and-procedures/index.php
- **Application for Degree**, http://www.fau.edu/graduate/forms-and-procedures/index.php
- **Academic Dismissal of Students from a Graduate Degree Program (Provost's Memorandum)**, https://www.fau.edu/provost/resources/policy-memoranda.php
- **Graduate Thesis and Dissertation Guidelines**, http://www.fau.edu/graduate/forms-and-procedures/degree-completion/thesis-and-dissertation/index.php

The following forms may be obtained from the Chemistry and Biochemistry Program Office:

- **Graduate Student Milestone Chart**
- **Research Advisor Approval Form**
- **Supervisory Committee Approval Form**

8. TERMS AND DEFINITIONS

The following is a list of terms used in this document and their meanings.

- **Department** – the Department of Chemistry and Biochemistry.
- **Program** – the M.S. program in the Department of Chemistry and Biochemistry.

- **Program Office** – the main administrative office of the Department of Chemistry and Biochemistry, located in PS-110 on the Boca Raton campus.
- **Department Chair** – the Chair of the Department of Chemistry and Biochemistry.
- **Graduate Committee** – the Graduate Programs Committee for the Department of Chemistry and Biochemistry, responsible for overseeing the policies and procedures of the M.S. and Ph.D. programs.
- **Graduate Chair** – the Chair of the Graduate Programs Committee in the Department of Chemistry and Biochemistry.
- **Graduate Faculty** – any faculty member with permission to serve on a M.S. Supervisory Committee.
- **Supervisory Committee** – the group of Graduate Faculty (typically three members) responsible for supervising the M.S. student's research and other degree requirements.
- **Research Advisor** – the Principal Graduate Faculty member responsible for overseeing the student's research and other degree requirements. The Research Advisor is typically also the Chair of the Student's Supervisory Committee, or a co-Chair if the Research Advisor is an Emeritus or Affiliate with Graduate Faculty status.

9. ADDENDUM

Any addendum to these guidelines shall be approved by the Graduate Committee.