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1. **INTRODUCTION**

Welcome to the Ph.D. Program in Biochemistry at The Graduate Center CUNY. This handbook provides current information about the program, the requirements for the degree and graduation, course descriptions, rules and regulations, contacts for help and other information to help guide you during your studies.

Established in 1968, The Ph.D. Program in Biochemistry is one of four natural science doctoral programs at The Graduate Center, the others being in Biology, Chemistry and Physics. The Biochemistry doctoral faculty is drawn mainly from the Chemistry and Biology Departments of the senior CUNY colleges (Brooklyn College, City College, Hunter College, the College of Staten Island, Queens College, Lehman College, York College) as well as from the new CUNY Advanced Science Research Center (ASRC)/GC. Nearly all the lecture and seminar courses for students are held at The Graduate Center, while laboratory research is performed at the senior colleges, research centers and/or affiliated institutions.

The Graduate Center building, located at 365 Fifth Avenue, was built in 1906 and is a landmark in the cultural history of New York (https://www.gc.cuny.edu/About-the-GC/Building-Venues-Particulars). CUNY has occupied most of the building since 1999.

Students spend their first three semesters taking courses at The Graduate Center and carry out research rotations throughout the CUNY senior college system during their first two terms. Financial support for all students during the first year comes from a CUNY Science Scholarship awarded upon entering the program. This award ($30,000 in 2020) provides financial support, a full tuition waiver and low-cost health insurance available for a total of five years.

The doctoral courses include “core” or required courses (70000-level) and advanced and special topics courses and seminars (80000-level). The core courses provide instruction in a broad array of biochemistry topics and an introduction to techniques used in modern research. Special topics and advanced courses provide in-depth study of Bioinformatics, Structural Biology, Spectroscopy, Enzymology and other relevant areas.

Students take Part I of the First Level Examination in the first fall semester and Part II during the second semester. These comprehensive examinations test competencies in the core material according to the learning goals outlined below. Elective (advanced) courses are required during the second year. A Molecular Biophysics track is also available with courses beginning in year 2.

Students gain research experience and familiarity with various faculty members’ research programs during four laboratory rotations accomplished in the first year. After that experience, a mentor and a research project is chosen during the spring semester such that the summer can be a productive period for research in the thesis
advisor’s laboratory. A list of the research interests of faculty members in the Biochemistry Program may be found at: https://www.gc.cuny.edu/Page-Elements/Academics-Research-Centers-Initiatives/Doctoral-Programs/Biochemistry/Program-Faculty-Specializations.

Students are expected to prepare for and pass the Second Level Examination at the end of the second year in the program to demonstrate competence in their research field. This examination is in the form of a written research proposal and an oral defense before the Doctoral Dissertation Committee. Students are advanced to degree candidacy (Level III) after passing this Exam and upon accumulating 60 credits, with only the thesis to complete and defend before being granted the Ph.D.

Students are expected to acquire at least two semesters of college teaching experience. This experience usually involves undergraduate laboratory course instruction at a senior college of CUNY.

Best wishes for your success!
2. LEARNING GOALS OF THE BIOCHEMISTRY PhD PROGRAM

General Goals: Knowledge, comprehension, and application of information in core areas of biochemistry; analysis and synthesis of information in these areas using oral and written communication; analysis, synthesis, and evaluation of originally conceived and developed biochemical information in a specific area of research

The specific learning goals within the core curriculum include the following:
- Basic facts about the structure and functions of biological macromolecules: nucleic acids, peptides and proteins including structural and binding proteins; enzymes and enzyme kinetics
- Structures and properties of organic molecules in cellular metabolism
- Design of key metabolic pathways and their regulation
- Molecular biology including mechanisms of DNA replication, repair, modification; RNA and ribozyme structure and function; gene regulation; comparison of eukaryotic and prokaryotic systems throughout
- Ribosome structure and function; the genetic code
- Membrane structure; receptors, transporters, ion channels.
- Cell signaling; protein trafficking
- Bioorganic chemistry: the chemical properties of organic molecules relevant to biological systems and the mechanisms of their chemical reactions; corollaries with enzyme mechanisms and drug molecules
- Physical biochemistry: statistical mechanics, chemical thermodynamics; chemical equilibrium and reaction free energy; modern methods for biochemical calculations; application of modern techniques for the analysis of macromolecular structure and function including spectroscopic methods, crystallography, cryo-electron microscopy, measurement of physical properties of macromolecules.

Learning goals in advanced (second year) courses may include:
- Bioinformatics and computer coding: competency using, understanding and manipulating information in genetics and protein databases
- Enzymology: understanding mechanisms/structural features in prokaryotic and eukaryotic examples, the kinetics of unusual enzyme reactions, and ribozymes.
- Biophysics: understanding macromolecular structure/function relationships and the techniques used for structure determination
3. REQUIREMENTS FOR THE DOCTOR OF PHILOSOPHY DEGREE

3.1 Course Credit

The degree of Doctor of Philosophy is awarded for mastery of advanced subject matter in biochemistry and demonstration of independent and original research. Students are expected to complete all degree requirements within 5 years and must maintain high academic standards (GPA at least 3.0) to remain in good standing in the program.

Core and advanced courses are taken over 3 (or 4) semesters to fulfill 30 credits. 60 credits are required for the degree. Up to 30 credits may be transferred from outside CUNY upon approval for graduate level coursework or an MA/MS degree. Transfer credits do not apply to core courses.

3.2 First Examination

Students must pass Parts I and II of the First Examination during the first year. Part I is usually given after final exams in the fall semester and Part II is given similarly May or June. Each of these is a written examination testing fundamental knowledge of biochemistry including topics in molecular biology, physical biochemistry and bioorganic chemistry. In cases where a student fails one or more sections, exams may be re-taken but only a single time, usually in August of the first year. A grade of “B” or better in both Advanced Biochemistry I and II (BICM 71010 and BICM 71020) courses and passing grades on both parts I and II of the First Level Exams must be achieved to earn promotion to Level II and remain in good standing.

3.3 Second Examination

The Second Examination should be accomplished by the end of the second year to allow students to advance to Level III. The exam is in the form of a written proposal developed by the student based upon preliminary results obtained in research on the thesis topic and defended before the Doctoral Dissertation Committee. The student and the thesis advisor select the members of this committee with approval by the Executive Officer. Forms and procedures are available from the Biochemistry Program Office and on online at https://www.gc.cuny.edu/Page-Elements/Academics-Research-Centers-Initiatives/Doctoral-Programs/Biochemistry/Student-Resources

3.4 Advancement to Candidacy

Before students can be certified as a candidate for the doctoral degree (Level III), they must earn 60 credits of course work (of which at least 30 credits must be taken at CUNY) - including research toward the doctoral dissertation- with an overall “B” average (grade point average of 3.0) and must have passed the First Examination and the Second Examination. Students advanced to candidacy may apply for the M.Phil degree in Biochemistry and may register as auditors in graduate courses. See below 8.1.2.
3.5 Dissertation

The doctoral dissertation is written on an approved subject under the supervision of the thesis advisor and the Doctoral Dissertation Committee. After the dissertation text has been completed and approved, the student is required to make an oral defense before the Doctoral Dissertation Committee. The defense is a publicly announced oral examination. An approved final version of the thesis must be deposited in The Graduate Center’s Mina Rees Library. The written dissertation must comply with the formatting and other structural requirements - see http://libguides.gc.cuny.edu/dissertations/format. Forms and procedures are available in the Biochemistry Program Office.

Foreign students must consult with the International Student Office at the Graduate Center well in advance of thesis submission to be sure they remain in the appropriate immigration status because the program of study will be considered completed upon submission of the final dissertation.

3.6 Satisfactory Progress

Students must demonstrate satisfactory progress toward the degree to remain in good standing at The Graduate Center and to be eligible for financial aid. To remain in good standing, students must:

- maintain a grade point average of at least 3.0
- must earn a grade of B or better in the Advanced Biochemistry I and II courses and cannot have more than two open grades (INC, INP, ABS, ABP, NGR)
- must pass the First Examination before accumulating 45 credits
- must not go beyond the summer of their second year without passing the Second Level examination
- must have a thesis adviser and a Mentor Agreement to guarantee financial support beyond year one
- cannot exceed the time limit for the degree.

(Please see Graduate Center’s Student Handbook for further details):


Students who find it necessary to change thesis advisors are allowed one semester to find a new laboratory for thesis research: official notification must be communicated to the Program office and the Provost of the College where research and teaching had been arranged and where it will be performed after the change.
3.7  Required Research Training - CITI Program

3.7.1. Responsible Conduct of Research

All entering students must attend a workshop on the Responsible Conduct of Research (RCR) offered by the Office of Research and Sponsored Programs at the Graduate Center. This mandatory workshop is offered in the fall and spring semesters and must be completed in the first year of doctoral study.

3.7.2. Research Ethics and Compliance

To comply with federal rules, CUNY and The Graduate Center require all students to be trained in research ethics. CUNY uses the “CITI” on-line training service to provide this instruction. The training consists of modules of text followed by short, multiple-choice quizzes. Students may complete the training anywhere they have web access and it can be done over several sessions. Direct access to the CITI service is at: https://www.citiprogram.org/

3.8  Human Subjects Research Approval

The CUNY Human Research Protection Program (HRPP) is responsible for the protection of the rights and welfare of human subjects in research projects conducted at CUNY or by CUNY faculty, staff and students, and CUNY staff hired under the Research Foundation of CUNY titles. All students conducting thesis research no matter its subject matter must file a “Dissertation Proposal Clearance: Human Participants” form along with an abstract of the dissertation project. The Registrar sends this form to students when they advance to Level III. The completed form must be submitted to the Office for Research and Sponsored Programs (ORSP). For projects involving human subjects, the form must first be approved by The Graduate Center Committee on the Protection of Human Subjects (or other CUNY campus Institutional Review Board) prior to initiation of the research. For more information, visit the website: https://www.gc.cuny.edu/About-the-GC/Administrative-Services/Human-Subjects-Research-Protection-Program-(HRPP)

3.9  Time Limit for the Doctoral Degree

All requirements for the degree must be completed within eight years. A time extension can be requested in cases where the student’s progress was delayed due to illness, financial considerations and other special circumstances. All extensions require the approval of the Executive Officer. Students are guaranteed financial support for five years only (10 semesters) after which point research mentor grant funds, campus-based adjunct salary, endowments and philanthropy (fellowships) must be sought for financial support.
3.10 Residency

Doctoral students are expected to spend each semester as full-time students. Full time enrollment consists of a schedule with a minimum of 7 credits each semester. Tuition will be waived for all students in full-time status who entered the program with a CUNY Science Scholarship. Foreign students must maintain full-time status throughout their time in the PhD Program.

3.11 Teaching

Students are expected to acquire at least two semesters of college teaching experience unless the Executive Officer waives this requirement. This experience may be in the form of teaching in the laboratory or in the classroom.

4. ADVISEMENT OF NEW STUDENTS

A new student should make an appointment with the Executive Officer or the Assistant Program Officer (APO) at The Graduate Center or with the Deputy Executive Officer on the home campus to keep current with information about the Biochemistry Ph.D. Program including program changes, examination procedures and the selection of a research mentor.

4.1 Executive Officer/Program Office Information

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof. Sebastien Poget</td>
<td>Executive Officer</td>
<td><a href="mailto:sebastien.poget@csi.cuny.edu">sebastien.poget@csi.cuny.edu</a> 212-817-8086, Room GC 4312.01</td>
</tr>
<tr>
<td>Denise Charles</td>
<td>Assistant Program Officer</td>
<td><a href="mailto:dcharles@gc.cuny.edu">dcharles@gc.cuny.edu</a> 212-817-8085, Room GC 4312</td>
</tr>
</tbody>
</table>

4.2. Deputy Executive Officers at Campuses

Following is a list of the Deputy Executive Officers at each campus (2020-2023):

<table>
<thead>
<tr>
<th>Campus</th>
<th>Deputy Executive Officers</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASRC</td>
<td>Patrizia Casaccia</td>
<td><a href="mailto:pcasaccia@gc.cuny.edu">pcasaccia@gc.cuny.edu</a> 212-413-3180</td>
</tr>
<tr>
<td>Brooklyn College</td>
<td>Prof. Richard Magliozzo</td>
<td><a href="mailto:rmaglioz@brooklyn.cuny.edu">rmaglioz@brooklyn.cuny.edu</a> 718-951-5000 ext. 2845</td>
</tr>
<tr>
<td>City College</td>
<td>Prof. David Jeruzalmi</td>
<td><a href="mailto:djeruzalmi@sci.ccny.cuny.edu">djeruzalmi@sci.ccny.cuny.edu</a> 212-650-6062</td>
</tr>
<tr>
<td>College of Staten Island</td>
<td>Prof. Rupal Gupta</td>
<td><a href="mailto:gupta@csi.cuny.edu">gupta@csi.cuny.edu</a> 718-982-3910</td>
</tr>
<tr>
<td>Hunter College</td>
<td>Prof. Jayne Raper (Biology)</td>
<td><a href="mailto:raper@genectr.hunter.cuny.edu">raper@genectr.hunter.cuny.edu</a> 212-396-6644</td>
</tr>
<tr>
<td></td>
<td>Prof. Frida Kleiman (Chemistry)</td>
<td><a href="mailto:fkleiman@hunter.cuny.edu">fkleiman@hunter.cuny.edu</a> 212-896-0451</td>
</tr>
<tr>
<td>Lehman College</td>
<td>Prof. Melissa Deri</td>
<td><a href="mailto:melissa.deri@lehman.cuny.ed">melissa.deri@lehman.cuny.ed</a> 718-960-8202</td>
</tr>
<tr>
<td>Queens College</td>
<td>Prof. Uri Samuni</td>
<td><a href="mailto:Uri.Samuni@qc.cuny.edu">Uri.Samuni@qc.cuny.edu</a> 718-997-4223</td>
</tr>
<tr>
<td>York College</td>
<td>Adam Profit</td>
<td><a href="mailto:aprofit@york.cuny.edu">aprofit@york.cuny.edu</a> 718-262-2656</td>
</tr>
</tbody>
</table>
5. **PATHWAY TO DEGREE**

5.1 **Standard Track**

<table>
<thead>
<tr>
<th>Year One, Fall Semester</th>
<th>Course</th>
<th>Course #</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Advanced Biochemistry I</td>
<td>BICM 71010</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Basic Seminar in Biochemistry I</td>
<td>BICM 72010</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Bioorganic Chemistry</td>
<td>BICM 75000</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Research Techniques in Biochemistry I</td>
<td>BICM 71110</td>
<td>Up to 6</td>
<td></td>
</tr>
<tr>
<td>Research Techniques in Biochemistry II</td>
<td>BICM 71120</td>
<td>Up to 6</td>
<td></td>
</tr>
<tr>
<td>Seminar in Biochemistry</td>
<td>BICM 81000</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Total Credits (15)**

<table>
<thead>
<tr>
<th>Year One, Spring Semester</th>
<th>Course</th>
<th>Course #</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Biochemistry II</td>
<td>BICM 71020</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Basic Seminar in Biochemistry II</td>
<td>BICM 72020</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Physical Biochemistry</td>
<td>BICM 77000, &amp; 77001</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Research Techniques in Biochemistry I</td>
<td>BICM 71110</td>
<td>Up to 6 credits</td>
<td></td>
</tr>
<tr>
<td>Research Techniques in Biochemistry II</td>
<td>BICM 71120</td>
<td>Up to 6 credits</td>
<td></td>
</tr>
<tr>
<td>Seminar in Biochemistry</td>
<td>BICM 81000</td>
<td>1</td>
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**Total Credits (15)**

<table>
<thead>
<tr>
<th>Year Two, Fall and Spring combined</th>
<th>Course</th>
<th>Course #</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Seminar in Biochemistry</td>
<td>BICM 81000</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Bioinformatics/Coding workshop</td>
<td>BICM 87001</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>One other advanced science course (Recommended)</td>
<td>Biology, chemistry, BICM</td>
<td>3</td>
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</tr>
<tr>
<td>Doctoral Dissertation Research</td>
<td>BICM 82000</td>
<td>22-24</td>
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</table>

**Total credits year 2 (30)**

**Total years 1-2 (60)**

<table>
<thead>
<tr>
<th>Year 3</th>
<th>Course</th>
<th>Course #</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissertation Supervision</td>
<td>BICM 90000</td>
<td>1 (qualifies as full-time)</td>
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</tr>
</tbody>
</table>
## 5.2 Molecular Biophysics Track

<table>
<thead>
<tr>
<th>Course</th>
<th>Course #</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year One, Fall Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced Biochemistry I</td>
<td>BICM 71010</td>
<td>3</td>
</tr>
<tr>
<td>Basic Seminar in Biochemistry I</td>
<td>BICM 72010</td>
<td>1</td>
</tr>
<tr>
<td>Bioorganic Chemistry</td>
<td>BICM 75000</td>
<td>3</td>
</tr>
<tr>
<td>Research Techniques in Biochemistry I</td>
<td>BICM 71110</td>
<td>Up to 6</td>
</tr>
<tr>
<td>Research Techniques in Biochemistry II</td>
<td>BICM 71120</td>
<td>Up to 6</td>
</tr>
<tr>
<td>Seminar in Biochemistry</td>
<td>BICM 81000</td>
<td>1</td>
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<tr>
<td><strong>Total Credits (15)</strong></td>
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</tr>
<tr>
<td><strong>Year One, Spring Semester</strong></td>
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<td></td>
</tr>
<tr>
<td>Advanced Biochemistry II</td>
<td>BICM 71020</td>
<td>3</td>
</tr>
<tr>
<td>Basic Seminar in Biochemistry II</td>
<td>BICM 72020</td>
<td>1</td>
</tr>
<tr>
<td>Physical Biochemistry</td>
<td>BICM 77000 &amp; 77001</td>
<td>4</td>
</tr>
<tr>
<td>Research Techniques in Biochemistry I</td>
<td>BICM 71110</td>
<td>Up to 6</td>
</tr>
<tr>
<td>Research Techniques in Biochemistry II</td>
<td>BICM 71120</td>
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</tr>
<tr>
<td>Seminar in Biochemistry</td>
<td>BICM 81000</td>
<td>2</td>
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<tr>
<td><strong>Total Credits</strong></td>
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<td>15</td>
</tr>
<tr>
<td><strong>Year 2 Fall and Spring Combined</strong></td>
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<td></td>
</tr>
<tr>
<td>Bioinformatics/Coding workshop</td>
<td>BICM 84000</td>
<td>4</td>
</tr>
<tr>
<td>Molecular Biophysics Lecture</td>
<td>CHEM 87901</td>
<td>3</td>
</tr>
<tr>
<td>Molecular Biophysics Seminar 2x</td>
<td>CHEM 80541</td>
<td>2 (1 each)</td>
</tr>
<tr>
<td>Doctoral Dissertation Research</td>
<td>82000</td>
<td>(22-24)</td>
</tr>
<tr>
<td><strong>Total credits year 2 (30)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total years 1-2 (60)</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>Year 3</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissertation Supervision</td>
<td>BICM 90000</td>
<td>1 (qualifies as full-time)</td>
</tr>
</tbody>
</table>
5.3 Advanced Courses

After completing the core courses and passing the First Examinations, students are encouraged to take advanced doctoral courses in biochemistry, the biological sciences and/or other disciplines selected with the approval of the student’s research mentor and the Executive Officer. Graduate-level courses may be taken tuition-free at other institutions in New York City upon request (see 9.12).

5.3.1 Seminars

Students are required to complete the BICM 81000 seminar course three times and then to continue participation in colloquia at their home campus or at other campuses during the entire period of training.

5.3.2 Thesis Research

Students are urged to begin thesis research immediately after completion of first year core requirements and will register for BICM 82000 - Doctoral Dissertation Research (usually for 12 credits). With approval of the Executive Officer, BICM 71130 may be taken to allow for research experience until the First Examination is passed or until the student and mentor have agreed on the topic of the doctoral dissertation.

5.4 Required Milestone Examinations

5.4.1 First Examination

Students must pass Part I of the First Examination before the start of the second semester and Part II before the start of the third semester. If any first-level examinations are not passed in the first attempt, a make-up exam must be passed during the first summer. Program policy requires a “B” average for BICM 71010 and BICM 71020 lecture courses. A single grade of B- minus can be sustained if a student passes the corresponding First Level exam. For the remaining core courses, GC policy requires maintenance of a B average. A single failed First Level Examination after two attempts can be remediated under special circumstances and upon approval by the EO.

5.4.2 Second Examination

The students must prepare a proposal based on a suitable topic for their thesis research, agreed upon with the thesis advisor and suitable for the advanced degree. This may be planned after the student has gathered preliminary data that addresses the main thesis topic and holds promise for successful future work towards completing the thesis. Forms and procedures are provided to the student after they pass the First Examination. https://www.gc.cuny.edu/Page-Elements/Academics-Research-Centers-Initiatives/Doctoral-Programs/Biochemistry/Program/Degree-Requirements
6 THE DOCTORAL DISSERTATION COMMITTEE

6.1 Selection of a Thesis Advisor and Committee

Students must choose a thesis research advisor from among the Biochemistry doctoral faculty whose primary appointment is at one of the following campuses: Brooklyn College, CCNY, Hunter College, Lehman College, Queens College, The College of Staten Island, York College and the ASRC/GC. A list of Faculty Research Interests can be found on the Program’s website or obtained from the Biochemistry Program Office. Students may not select adjunct professors nor can they identify a co-mentor. The thesis advisor, the student, and the Executive Officer will agree upon the membership of the thesis committee and the appropriate form: (https://www.gc.cuny.edu/CUNY_GC/media/CUNY-Graduate-Center/PDF/Programs/Biochemistry/Student%20Resources/Thesis-Committee-Form.pdf) with the names and signatures must be submitted to the program office.

6.1.1 Structure of the Doctoral Committee

The committee should be composed of at least five members, three of whom must be CUNY doctoral faculty in the natural sciences. The student’s thesis advisor serves as the committee chairperson unless an agreement is made to appoint a different member as the chair. No more than three members of the committee can be from the home campus of the student. Depending on the topic of the thesis research, faculty members from other doctoral programs and/or from outside the CUNY faculty can be asked to serve on the dissertation committee, which is strongly encouraged.

6.1.2 Changes in Composition of Committee

Any change in the composition of the committee requires approval of the Executive Officer. The following rules apply:

- If a student changes thesis advisor, a new committee will be formed.
- An addition to an existing committee is generally acceptable.
- A faculty member may withdraw from the committee but should be replaced.
- When the chairperson of a doctoral dissertation committee can no longer serve in that capacity, the Executive Officer will act as the temporary chairperson.

6.2 Functions of the Doctoral Dissertation Committee

The Doctoral Dissertation Committee is responsible for overseeing student progress and must participate in approving the dissertation and the thesis defense.
6.2.1 Thesis Research Progress:

i. The student will meet with the thesis committee by the end of the second year in the program to present and defend the Second Examination. At this meeting, the Committee will review the progress of the student’s thesis research and provide guidance about the future directions of the project.

ii. Thereafter, the full committee should meet at least every other year to review the student’s progress.

iii. During intervening years, the student must meet with the committee members who are based at the student’s home campus.

iv. The student or any member can call a meeting of the full committee at any time.

Please follow these procedures:

i. Prior to committee meetings, the student must submit a written progress report to each member and set up a date for the meeting and reserve a room either at the Graduate Center or their home campus.

ii. After the committee meeting, the mentor should return the “Report of Thesis Committee Meeting” form to the Biochemistry Program Office, completed and signed, as well as a copy of materials presented by the student at the meeting.

6.2.2 Dissertation/Thesis Defense

The thesis defense is an open meeting scheduled upon agreement between the student, the thesis advisor and all committee members. A copy of the thesis must be available in the Biochemistry Office and sent to all committee members at least two weeks prior to the defense. The thesis defense can be scheduled at The Graduate Center or at the candidate’s home campus if circumstances make that necessary. One member is allowed to participate remotely with permission from the Executive Officer and the student should make the necessary arrangements well in advance of the defense.

The Biochemistry Program Office will notify the Office of the Provost of the oral defense. The Provost’s Office will then officially invite each member of the Doctoral Dissertation Committee to serve at the examination. Additionally, the Biochemistry Program Office will announce the scheduled thesis defense via email one week before the defense.

Minor revisions of the dissertation may be required before final approval. An approved final hard copy must be deposited in The Graduate Center’s Mina Rees Library in pdf format. The written dissertation must comply with the formatting and other structural requirements outlined here: http://libguides.gc.cuny.edu/dissertations/format. The procedures are frequently changed so students must be sure they comply with the most recent ones.
7. FINANCIAL AID

All entering Biochemistry doctoral students are guaranteed five years of financial support while they remain in good standing. This support includes a stipend, eligibility for health insurance (New York State Health Insurance Program (NYSHIP)), and full tuition waiver for prescribed coursework.

Participation in the health insurance plan is voluntary, but strongly recommended. The insurance is provided through the Student Employee Health Plan (SEHP), component of the New York State Health Insurance Program (NYSHIP). It covers medical, hospitalization, prescription drug, mental health/substance abuse, dental and vision benefits. For questions regarding health insurance, contact the Office of Student Affairs at the Graduate Center, telephone number: 212-817-7406 or email: studentaffairs@gc.cuny.edu. Further information can be found online at: https://www.gc.cuny.edu/Prospective-Current-Students/Student-Life/Health-Wellness/Health-Insurance.


Most students are supported by a teaching appointment. Four types of teaching appointments are available (additional information can be found at: https://www.psc-cuny.org/proposed-salary-schedules-graduate-assistants

<table>
<thead>
<tr>
<th>Title</th>
<th>Teaching/service requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Fellowship A</td>
<td>6-8 contact hours per week</td>
</tr>
<tr>
<td>Graduate Fellowship B</td>
<td>3-4 contact hours per week</td>
</tr>
<tr>
<td>Adjunct instructor</td>
<td>Variable</td>
</tr>
<tr>
<td>Graduate Fellowship D</td>
<td>No classroom hours</td>
</tr>
</tbody>
</table>

Teaching assignments are made by the participating colleges during the spring semester (usually by mid-April) of the first year in the program and each spring after that.

Some students may be supported solely by their thesis advisors from research grants, as employees of the Research Foundation of CUNY, or by fellowships and awards such as the GC Dissertation Award. Whatever the source of funds, students must earn an annual total award equal to or greater than the CUNY Science Scholarship award amount they received upon entry into the program ($30,000 in 2020).
8. TUITION AND FEES

8.1 Tuition

Tuition is waived for 10 semesters for all students assigned a CUNY Science Scholarship upon entering the program while they are in good standing. Tuition may be due under other circumstances and rates vary according to the student’s in-or out-of-state residency and whether the student is full-time or part-time. Students are classified for tuition purposes according to the three levels of progress: Students are considered to be at Level I until completion of 45 earned credits of graduate work, and until passing the First Level Exam Parts I and II, after which they will move to Level II. Students advance to Level III after completion of the Second Level Examination and are then considered candidates for the degree. It’s the student responsibility to notify the GC about change in residency after living in NY more than one year.

Students registering for courses when in Level III will be required to pay tuition on a per credit basis if they exceed the 15 credits maximum in any semester.

8.1.1 Tuition Schedule

<table>
<thead>
<tr>
<th>Student Level</th>
<th>New York State Residents (rate per semester)</th>
<th>Out-of-State Residents and International Students (rate per semester)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time: 7 credits or more/WIU</td>
<td>$4,965</td>
<td>$965 per credit/WIU</td>
</tr>
<tr>
<td>Part-time:</td>
<td>$560 per credit/WIU</td>
<td>$965per credit/WIU</td>
</tr>
<tr>
<td>Level II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(full-time only)</td>
<td>$3,110</td>
<td>$6,910</td>
</tr>
<tr>
<td>Level III</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(full-time only)</td>
<td>$1,235</td>
<td>$2,450</td>
</tr>
</tbody>
</table>

8.1.2 Tuition in Level III

Level III doctoral students who wish to take courses for credit (with the exception of 90000-level courses) will be billed $530 per credit for NY State residents and $905 per credit for non-residents.

8.1.3 Student Fees

After their first year, students will be billed for a Graduate Center Student Activities Fee of $42.20, University Consolidated Services Fee of $15.00 and a technology fee of $125.00. These fees cannot be reimbursed by the PhD Program but students may request coverage from their research advisor.

9 REGISTRATION

9.1 General Information

All CUNY doctoral students can register and add/drop courses on-line through CUNY First. Electronic course permits and add/drops must be approved through the Biochemistry Program Office.

All students are required to be in status each semester. This means that students must either be registered or be on an approved leave of absence. Information regarding registration procedures will be emailed to each student every semester well in advance of the registration deadline. The Program Office (APO) will release registration holds upon request.

The following Graduate Center and Program obligations must be fulfilled in order to register:

a. Students must comply with immunization requirements for measles, mumps and rubella (if born after January 1, 1957). All students must fill out a Meningococcal Meningitis Vaccination Response Form.

b. Students who have passed the First Examination:
   i. must have selected their thesis committee,
   ii. must have submitted their annual thesis progress report and met with their thesis committee.
   iii. must have fulfilled their Second Examination requirement within the normal time limit (5 semesters in the program).

9.2 Residence

At least 30 of the 60 credits required for the degree must be taken in residence at CUNY. Students are expected to remain in full-time residence after they have passed the First Examination. Full-time students are expected to take 15 credits per semester in their first four semesters.

9.2.1 Full-Time Certification:

A student may be certified full-time when enrolled for a minimum of 7 credits, or when enrolled in BICM 90000 Thesis Supervision for 1 credit and doing full-time research.

Sixty credits of approved graduate work (along with passing the First and Second Examinations, and an accepted dissertation) are required for the degree. Level III students must register each semester for BICM 90000 - Dissertation Supervision under their thesis advisor.

Registration for more than 15 credits requires the approval of the Executive Officer and the Vice President for Student Affairs.
9.3 Schedule Changes

Before registration, students should inform their thesis advisor of the courses they plan to take. After being registered, students must inform their advisor and the Biochemistry Program Office of any changes they intend to make in their schedule.

Dropping a course requires the permission of the instructor and the Executive Officer. After the third week of the semester, a “dropped course” will appear on the student’s record as a “W” grade. No course may be dropped after the tenth week of the semester. See: https://www.gc.cuny.edu/GC-Header/GC-Portal/CUNYfirst/Information-for-Students for detailed information.

9.4 Transfer of Credit

The Graduate Center allows for transfer of a maximum of 30 credits that were taken prior to admission to the Ph.D. Program in Biochemistry. These credits may be applied toward the degree provided the courses were graduate level and completed with a grade of “B” or higher within an appropriate period preceding the time of application and are equivalent to comparable courses at the Graduate Center. An evaluation of previously earned credits will be made at the end of the student’s first year. The student seeking transfer of credit should make an appointment to see the Executive Officer.

9.5 Auditing Courses

Students must obtain the approval of the Executive Officer to audit a course. Students may audit courses as part of their course load for no additional tuition until 60 credits have been accumulated. After that, a Level III student may audit tuition free (no credits will be earned) or they may audit a course for credit by paying $530/$905 (in-state versus out-of-state/international) per credit.

The student auditing a course should attend regularly but is not required to fulfill the course requirements such as taking exams and submitting papers. The audited course is recorded on the transcript as “Audit” without a grade.

9.6 Incomplete and No Record of Progress Grade (NPR)

Students must resolve grades of INC within ONE calendar year after the INC grade was assigned. After one year, an INC grade will be automatically transformed into an INP (Permanent Incomplete). Permanent incompletes accrue no credits. Students will normally be regarded as not making satisfactory progress toward the degree and will not earn financial aid if they have two or more INC (or INP) grades on their record.

A grade of “No Record of Progress” (NRP) can be used for students in 90000 courses (Dissertation Supervision - Level III) who have made no progress on the dissertation over the course of the semester.
9.7 Maintenance of Matriculation
To preserve continuity of the academic experience, a student who is not “on leave” may pay a fee to maintain matriculation without being registered for any courses.

9.8 Withdrawal
The Executive Officer and the Vice President for Student Affairs must approve a written notice of voluntary withdrawal from the Program. A “Request for Withdrawal” form may be downloaded from the Biochemistry website. The withdrawal cannot be granted until the Chief Librarian, Bursar, Assistant Business Manager and the Director of Financial Aid have cleared the student.

9.9 Termination from the program
Students must maintain a minimum GPA of 3.0 throughout their doctoral work in order to be in good standing and to graduate. Failure to maintain the 3.0 will result in placement on probation. Any student on probation must achieve a 3.0 in any term in which he or she is on probation and during the subsequent two terms. Failure to meet either of these requirements could result in dismissal from the Program. The GC policy on satisfactory academic progress and termination can be found in the https://www.gc.cuny.edu/About-the-GC/GC-at-a-Glance-Mission-Facts/Bulletin-of-the-GC-2020-21.

9.10 Readmission
To resume doctoral study, a former student must apply to the Admissions Office for readmission and file a request to the Executive Committee of the program. The Vice President for Student Affairs must approve all applications for readmission. A special “Application for Readmission” form must be filed in the Office of the Registrar. The student must include the $20 readmission fee, a letter outlining plans for completing the Ph.D., and a letter of support from the thesis advisor. Additionally, the form requires written endorsement from the Executive Officer. An “Application for Readmission” form can be downloaded from: http://www.gc.cuny.edu/CUNY_GC/media/CUNY-Graduate-Center/PDF/Forms/Readmission.pdf

9.11 Leave of Absence
A leave of absence will be granted to a student wishing to interrupt doctoral study for up to one year. The leave request should be submitted to the Executive Officer in writing prior to the semester during which the leave will be taken. The request must be approved by the Executive Officer who will forward it to the Office of the Registrar. Requests must be cleared by the Director of Financial Aid, the Chief Librarian, the Bursar, the Business Office, the Director of the Office of International Students (if applicable), and the Director of Residence Life- coordinated by the Assistant Director of Admissions (if applicable). Retroactive leave requests will not be granted unless exceptional circumstances are
demonstrated. Official leave of absence time is not counted toward the time limit for completion of degree requirements. Financial aid is forfeited during the leave. Requests for an extension of a leave of absence for no more than one additional year, must follow the same procedure as indicated above.

During the period of a leave of absence, no changes in academic status, including such matters as the scheduling and taking of qualifying examinations, application for en-route degrees, and advancement to candidacy, will be effected. A “Request for Leave of Absence” form can be found at:
https://www.gc.cuny.edu/CUNY_GC/media/CUNY-Graduate-Center/PDF/Forms/LeaveOfAbsence.pdf?ext=.pdf.

9.12 Interuniversity Doctoral Consortium
The Graduate Center is a member of the Inter-University Doctoral Consortium (IUDC), which provides for cross registration among member institutions. Doctoral students may cross-register for doctoral study in the graduate schools of arts and sciences of the following institutions: Columbia University (including Teachers College), Fordham University, New School University, New York University (including Steinhardt School of Education), Princeton University, Rutgers–New Brunswick (State University of New Jersey), and Stony Brook (State University of New York). The courses chosen for cross registration should not normally be among those available at the Graduate Center. Participation is subject to approval by the deans of the home and host institutions. An interuniversity cross registration form is available from the Office of the Registrar and must be approved by the Executive Officer, course instructor, Dean of the home university and host universities. The form can be here:
https://www.gc.cuny.edu/CUNY_GC/media/CUNY-Graduate-Center/PDF/Forms/Permit-Out-Consortium-Form_V2.pdf

Information about the inter-university consortium is available on the Graduate Center website:
https://www.gc.cuny.edu/About-the-GC/Governance,-Policies,-Procedures/Detail?id=4326

9.13 Student Transcripts
Unofficial transcripts are available at no cost through CUNYFIRST. Current or former GC students with CUNYFIRST access who need an official transcript may order it by login into CUNYFIRST, then go to Student Center and then select the Official Transcript Ordering link.

10 STANDARDS OF RETENTION
Students’ records will be evaluated at the end of each academic year, and matriculation may be terminated for unsatisfactory scholastic performance, which is generally considered to be a GPA less than 3.0 and/or failure to meet other program requirements.
11 “EN-ROUTE” MASTER’S DEGREE

The “en-route” Master’s degree is awarded by select senior colleges (CCNY, Hunter College) to enrolled doctoral students who have fulfilled appropriate requirements. These requirements include a minimum of 45 credits taken in the Biochemistry Ph.D. Program with an average grade of “B,” passing the First Examination, and a satisfactory contribution to the biochemical literature such as:

- A published article on which the student is a first or second author (to be decided in consultation with the mentor), or
- A thesis equivalent to a Master’s thesis approved by the advisor and one other faculty member.

*Note that Courses taken for “SP” or “P” credit will not count towards the total.*

Those seeking the “en-route” Master’s degree should bring two copies of the published article/thesis with the mentor’s approval to the Biochemistry Program Office and ask the Executive Officer to initiate approval of the degree.

Please note that students must be in residence (registered) during the semester in which the degree will be awarded. Additional information about the “en-route” Master’s degree can be obtained from the Registrar at the Graduate Center.

12 MASTER OF PHILOSOPHY

The Graduate Center awards the Master of Philosophy degree (M. Phil.) to doctoral students who are advanced to candidacy. After the Advancement milestone has been posted, the Registrar Office will send an email to the student informing them that they will earn an MPhil on the next degree conferral date.
13 EMPLOYMENT AND CAREER COUNSELING

13.1 Career Counseling
Students are encouraged to use the services available to them through the Office of Career Planning and Professional Development at the Graduate Center. The office supports doctoral students in achieving their career goals. It offers individual career counseling, including advice on preparing a CV and other job search materials, assistance with preparing for interviews, and career planning strategies for both non-academic and academic job searches. The office also offers peer-to-peer writing consultations to review written materials and discuss general writing-related issues. All conversations with office staff are confidential. Students can email the office at CareerPlan@gc.cuny.edu

See: https://careerplancommons.gc.cuny.edu/about

13.2 Dossier and Employment Resources
The Graduate Center has partnered with Interfolio to provide online dossier services. Student portfolios can be placed online in an Interfolio account and accessed 24/7. The student works directly with Interfolio to establish a portfolio that can include letters of recommendation, curriculum vitae, writing samples, dissertation abstracts, teaching certifications, student evaluations and more.

Interfolio is an excellent way to store and deliver materials to an academic search committee or for further study. Interfolio maintains robust technological safeguards to keep documents private and safe. Once you sign up and upload your documents, the process for sending out materials becomes as simple as telling Interfolio where you want to apply and when. To set up a free account, please follow the instructions located at http://support.interfolio.com/m/62258/l/643212-create-your-free-interfolio-dossier-account. Interfolio only charges a fee to use their dossier delivery service.

GC students who are interested in this service should send an email to careerplan@gc.cuny.edu to request an Interfolio access code. Each unique access code will provide a user with 50 delivery credits to be used in Interfolio within one calendar year. Students are eligible to renew this service twice (50 delivery credits each year for up to three years) through the Office of Career Planning and Professional Development.

14. FELLOWSHIPS AND AWARDS

14.1 Horst Schulz
The Horst Shulz Prize is named in honor of Professor Emeritus Horst Schulz who served as Executive Officer for the Biochemistry Ph.D. Program from 1984 to 2002. The competition is opened to current or recent Graduates of the Biochemistry Ph.D. Program. There is a one prize of $1500.

To be eligible for consideration, you must be:
- A doctoral student currently in good standing in the Biochemistry Ph.D. Program, or a student who has successfully defended.
- The first author (or co-first author) on a peer-reviewed research article based upon research conducted at CUNY as part of your doctoral research. The article must be published one year or later prior to the competition. The publication must show your institutional affiliation as “The Ph.D. Program in Biochemistry, The Graduate Center of the City University of New York” or the paper will not be considered.
The criteria for selection of the winner include:
- Consideration of the impact of the research on the field.
- Quantitative metrics for the journal in which the article was published.
- The mentor’s statement.

The recipient of the award must present a 30-minute seminar at an award ceremony which is held annually in Mid-February at the Graduate Center.

### 14.2 Conference Presentation and Research Support

Students are notified throughout the year about travel and other awards. Applications are usually announced by email, so check your gradcenter.cuny.edu email account frequently. Specific awards such as the Doctoral Student Research Grants are announced each fall (November) and awarded during the following spring term.

### 14.3 Dissertation Fellowship Awards

The Graduate Center offers a number of dissertation-year fellowships and awards to Level III students completing their doctoral studies and dissertation. Announcements are made in October with a submission deadline in the following January for an award beginning the following fall term.


For details, contact Rachel Sponzo in the Office of the Associate Provost and Dean for Academic Affairs (rsponzo@gc.cuny.edu) or consult the website.

### 15. HOUSING

Information about the Graduate Center Apartments is found at: [https://www.gc.cuny.edu/Prospective-Current-Students/Student-Life/Housing](https://www.gc.cuny.edu/Prospective-Current-Students/Student-Life/Housing)

CUNY senior college campuses also have furnished rentals. See the following web sites for CUNY housing outside of Manhattan and apply as soon as possible if you are interested.

- [http://www.1kenilworth.com/](http://www.1kenilworth.com/)
- [http://www.hunter.cuny.edu/livingathunter](http://www.hunter.cuny.edu/livingathunter)
- [http://ccnytowers.com/](http://ccnytowers.com/)
- [http://csistudenthousing.com/](http://csistudenthousing.com/)

You may also inquire in the PhD Program Office for other contact information.
16. GRADUATE CENTER CONTACTS

**Office of Human Resources**
Executive Director of Human Resources: David Boxill
Room 8403; Telephone 1-212-817-7700;
Email: hr@gc.cuny.edu
URL: [http://www.gc.cuny.edu/About-the-GC/Administrative-Services/Human-Resources](http://www.gc.cuny.edu/About-the-GC/Administrative-Services/Human-Resources)

**Office of Compliance and Diversity**
Interim Vice President for Institutional Equity and Human Resources and
Chief Diversity Officer: Pinar Ozgu
Room 7301; Telephone: 1-212-817-7410
Email: compliancediversity@gc.cuny.edu

**Ombuds Office**
Ombuds Officer: Martin R. Gitterman, Ph.D.
Room 8108; Telephone: 1-212-817-7190
Email: ombuds@gc.cuny.edu
Ombuds Officer: Martin R. Gitterman, Ph.D.

**Office of International Students**
Director: Linda Asaro
Room 7200; Telephone: 1-212-817-7490
Email: intstu@gc.cuny.edu

**504/ADA**
Coordinator: Vice President for Student Affairs
Matthew Schoengood, Room 7301; 212 817-7400

**Office of Security and Public Safety**
Room 9117; Telephone: 1-212-817-7761 Email: security@gc.cuny.edu
URL: [https://www.gc.cuny.edu/About-the-GC/Administrative-Services/Public-Safety](https://www.gc.cuny.edu/About-the-GC/Administrative-Services/Public-Safety)
Campus Director: John Flaherty