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### FALL 2015

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 17</td>
<td>New graduate student orientation</td>
</tr>
<tr>
<td>August 19</td>
<td>4:00 p.m. Opening Convocation - graduate &amp; professional school students - Duke Chapel</td>
</tr>
<tr>
<td>August 24</td>
<td>8:30 a.m. - Fall Semester classes begin; Drop/Add continues</td>
</tr>
<tr>
<td>September 4</td>
<td>5:00 p.m. - Drop/Add ends</td>
</tr>
<tr>
<td>September 7</td>
<td>Labor Day. Classes in session</td>
</tr>
<tr>
<td>October 4</td>
<td>5:30 p.m. - Founders’ Day convocation (Founders’ Day TBD)</td>
</tr>
<tr>
<td>October 9</td>
<td>7:00 p.m. - Fall break begins</td>
</tr>
<tr>
<td>October 14</td>
<td>8:30 a.m. - Classes resume</td>
</tr>
<tr>
<td>November 4</td>
<td>Registration begins for Spring 2016</td>
</tr>
<tr>
<td>November 18</td>
<td>Registration ends for Spring 2016</td>
</tr>
<tr>
<td>November 19</td>
<td>Drop/Add begins for Spring 2016</td>
</tr>
<tr>
<td>November 24</td>
<td>Thanksgiving recess begins &amp; Graduate classes end</td>
</tr>
<tr>
<td>Nov 30 – Dec 7</td>
<td>Monday-Monday: Graduate reading period</td>
</tr>
<tr>
<td>December 4</td>
<td>Friday - Undergraduate classes end</td>
</tr>
<tr>
<td>December 5-5</td>
<td>Saturday – Monday: Undergraduate reading period</td>
</tr>
<tr>
<td>December 8</td>
<td>Tuesday - Final examinations begin (9:00 a.m.)</td>
</tr>
<tr>
<td>December 13</td>
<td>Sunday - Final examinations end (10:00 p.m.)</td>
</tr>
</tbody>
</table>

### SPRING 2016

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 13</td>
<td>Wednesday @ 8:30 a.m. - Spring Semester begins. The Monday class meeting schedule is in effect on this day; Regular class meeting schedule begins on Thursday, Jan. 14th; Classes meeting in a Wed./Fri. pattern begin Jan. 15th; Drop/Add continues.</td>
</tr>
<tr>
<td>January 14</td>
<td>Thursday. Regular class meeting schedule begins</td>
</tr>
<tr>
<td>January 18</td>
<td>Martin Luther King, Jr. Day Holiday - classes are rescheduled for January 13th</td>
</tr>
<tr>
<td>January 27</td>
<td>Wednesday @ 5:00 p.m. - Drop/Add ends</td>
</tr>
<tr>
<td>February 22</td>
<td>Registration begins for Summer 2016</td>
</tr>
<tr>
<td>February 26</td>
<td>Last day for reporting mid-semester grades</td>
</tr>
<tr>
<td>March 11</td>
<td>Friday @ 7:00 p.m. - Spring recess begins</td>
</tr>
<tr>
<td>March 21</td>
<td>8:30 a.m. - Classes resume</td>
</tr>
<tr>
<td>April 6</td>
<td>Registration begins for Fall 2016 &amp; Summer 2016 registration continues</td>
</tr>
<tr>
<td>April 15</td>
<td>Registration ends for Fall 2016; Summer 2016 registration continues</td>
</tr>
<tr>
<td>April 16</td>
<td>Drop/Add begins for Fall 2016</td>
</tr>
<tr>
<td>April 20</td>
<td>Graduate classes end</td>
</tr>
<tr>
<td>Apr 21 – May 1</td>
<td>Thursday – Sunday: Graduate reading period</td>
</tr>
</tbody>
</table>
April 27  Undergraduate classes end

Apr 28 – May 1  Thursday – Sunday: Undergraduate reading period

May 2  Final examinations begin

May 4  Undergraduate reading period (9:00 am – 2:00 pm)

May 7  Saturday @ 10:00 pm: Final examinations end

May 13  Commencement begins

May 15  Graduation exercises & conferring of degrees

SUMMER 2016

May 18  Term I classes begin: The Monday class meeting schedule is in effect on this day. Regular class schedule begins on Thursday, May 19. Drop/Add continues.

May 19  Thursday. Regular class meeting schedule begins

May 20  Drop/Add for Term I ends

May 30  Monday. Memorial Day holiday. NO CLASSES ARE HELD.

June 15  Last day to withdraw WP or WF from Term I classes

June 27  Term I classes end

June 28  Reading period

June 29 - 30  Term I final examinations

July 4  Monday. Independence Day holiday observed. NO CLASSES ARE HELD.

July 5  Term II classes begin.

July 7  Drop/Add for Term II ends

August 1  Last day to withdraw WP or WF from Term II classes

August 11  Term II classes end

August 12  Reading period (until 7:00 pm). Term II final examinations begin, 7:00 pm

August 14  Term II final examinations end.
ABOUT DUKE BIOCHEMISTRY

The Duke Department of Biochemistry has a rich history of research accomplishments at the cutting edges of biological and chemical research. We also contribute to an unusually broad educational mission, training and teaching undergraduate, graduate and medical students. Currently, the Department comprises 22 primary and 15 secondary faculty members, 3 active emeritus members, 1 adjunct member and 57 graduate students and 35 postdoctoral researchers. We occupy approximately 42,000 square feet of the Nanaline Duke Building and 5,000 square feet of the adjacent Sands Building, all of which has been newly renovated over the past few years to a very high standard.

The world-class research programs in the Department have been recognized by highly cited publications now included in textbooks, major journal editorships, provision of world-wide research resources, and numerous awards, including membership in the Howard Hughes Medical Institute (3), named Chairs (16), and election of faculty to the National Academy of Sciences (6), Institute of Medicine (4), American Academy of Arts and Sciences (9), American Association for the Advancement of Science (9), American Society of Clinical Investigation, Association for Computing Machinery, American Physical Society, Institute of Electrical and Electronic Engineers and the Association of American Physicians (2).

All of the basic science departments within Duke University Medical Center, including Biochemistry, are located in adjacent buildings along the two sides of Research Drive, promoting frequent interdepartmental interactions and productive collaborations. We also benefit greatly from a physical location immediately adjacent to the main Duke campus. The main quad, the beautiful Duke Chapel and Duke Gardens, the School of Engineering, the Departments of Chemistry, Biology, Physics, and Computer Science, the Ion Channel Research Unit, the Duke Human Vaccine Institute, and even the legendary Cameron Indoor Stadium, are all within a few minutes’ walk from the Biochemistry Department.

Department Resources & Contacts:

Faculty and students have access to state-of-art instrumentation, including X-ray crystallography, multidimensional nuclear magnetic resonance, computer graphics, analytical ultracentrifugation, circular dichroielectron microscopy, and support facilities like peptide and oligonucleotide synthesizers, large scale fermentation, optical microscopy and imaging systems.

**Molecular Structure**: 3D Macromolecule Analysis & Kinemage at the Richardson Laboratory. More information can be found at [http://kinemage.biochem.duke.edu/](http://kinemage.biochem.duke.edu/)

**Duke Magnetic Resonance Spectroscopy Center** ([http://nmrcenter.mc.duke.edu/](http://nmrcenter.mc.duke.edu/)): The Duke Magnetic Resonance Spectroscopy Center (DMRSC), located at B139 LSRC, provides access to highfield NMR instrumentation, training in the use of NMR methods, and expert consultation on advanced NMR applications. The Center serves as a research resource and shared instrument facility for research programs at Duke and in the Southeastern region. The Center was established with funding from the National Science Foundation, the Biomedical Research Support Shared Instrumentation Grants Program of the National Institutes of Health, the North Carolina Biotechnology Center of the State of North Carolina, and Duke University and has subsequently received additional support for new instrumentation including an 800 MHz spectrometer from these agencies and the Howard Hughes Medical Institute. General guidelines for allocation of time on the NMR spectrometers and the operating policy of the NMR Center are established and periodically reviewed by the DMRSC Steering Committee.
X-Ray Crystallography Center: http://xray.dhvi.duke.edu/

Biochemistry Graduate Studies Office (BGSO):

The DGS and DGSA serve as advocates for graduate students, who are encouraged to approach the DGSA & DGS with any school-related and/or personal concerns. All issues discussed will remain confidential. Students may either meet with the DGS and/or DGSA during their regular office hours Monday-Friday or schedule an appointment. The Biochemistry Graduate Studies Office (BGSO) is located in room 251 Nanaline Duke Bldg., Box 3711, Durham, NC 27710.

Dr. Leonard D. Spicer, Director of Graduate Studies (DGS) – The Director of Graduate Studies is the official departmental or program administrator of the rules and regulations of the Graduate School, the designated advocate of the needs of the graduate program and graduate students both within the department and in the University, and the initial advisor of all matriculating graduate students. The Biochemistry DGS is also the academic advisor to first years prior to research group affiliation. Dr. Spicer is located in room 231A Nanaline Duke building and can be contact by phone at 919-684-4327 or by email at ldspicer@duke.edu.

Amy Norfleet, Assistant to Director of Graduate Studies (DGSA) – The DGSA provides assistance with all graduate issues outside of the actual study of Biochemistry: registration, payroll, financial aid, visa services, health insurance, parking, program requirements, exam scheduling, room reservations, counseling, etc. The DGSA office is located in room 251 Nanaline Duke Bldg. You can contact the DGSA at 919-681-8770 or norfleet@duke.edu.

Biochemistry Department Administrative Office:

Dr. Richard Brennan, Biochemistry Chair -- The official link between the department and the dean, presenting the department's needs, objectives, and evaluations of achievement to the dean. Chairs nominate directors of undergraduate studies to their dean and directors of graduate studies to the dean of the Graduate School. They lead the department in planning, recommend allocation of space to their dean, and are responsible for budget preparation and surveillance, annual faculty evaluations, evaluations of faculty for promotion and tenure, assignment of academic and nonacademic staff, assignment of teaching loads and student advising, and adherence to departmental bylaws. The Administrative Office is located in room 255 Nanaline Duke Bldg. You can contact the Chair at 919-681-5326 or richard.brennan@duke.edu.

Additional Administrative Contacts:

Peggy Wilkison, Department Chair Asst.  Esther W. Self, Dept. Business Manager
255 Nanaline Duke Bldg.  255C Nanaline Duke Bldg., Box 3711
919-681-8804  919-684-5519
prw2@duke.edu

Note: All mail sent to the BGSO or Administrative Office must include the box number (Box 3711) to guarantee delivery.

Fax: The fax machine is located in the BCH Administration Office (255 Nanaline Duke) and is available during office hours, 8:00am – 5:00pm. The fax # is 919-684-8885. All local faxes can be sent free of charge. If you have a long distance fax, you will need a long distance fax code that can be obtained from your lab manager/staff assistant.
Computers/Phones: Computers and phones should be available for your use in your rotation labs and once you join a lab. We also have computers and printers located in 252 Nan Duke for student use (Biochemistry Student Lounge). The password for these computers is: nd251bc

Photocopiers: All of our departmental copiers require a pass code. During your first year of study, you will receive a code for the 2 departmental copiers, located on the 2nd floor of Nan Duke. You will have a limit of 1,500 free copies through May 31, 2016. Once you have joined a lab, you will need to use the code assigned to your lab (check with your lab manager/staff assistant).

E-mail: Before you arrive on campus for Orientation, you should have already received your official Duke NetID email log-in and password. We encourage you to use this account, but should you change your email address, please notify the BGSO immediately. You will also use your NetID log-in to register for classes each semester.

DukeID Card and after hours door access: The DukeCard Office is located at 100 West Union. Your first DukeCard is free, and is a requirement for all students. Visit the following site for more information on what you will need to obtain your DukeCard: http://dukecard.duke.edu/

After hours door access: To obtain after hours door access, you will need to have a DukeCard that contains a Proxchip. If your card does not contain a Proxchip, please see Amy Norfleet. If you have a Proxchip DukeCard, please bring your card to Amy Norfleet and she will send a request for after hours access to the Nanaline Duke, Sands, Jones, & CARL buildings.

Academic & Social Events

Biochemistry Department Seminars: Seminars are scheduled on Friday’s at 12:00 noon in room 147 Nanaline Duke Bldg. unless otherwise noted in the schedule. Coffee is served in the lobby at 11:45 am. The seminar schedules for fall 2015 can be found at: http://www.biochem.duke.edu/biochemistry-seminars-fall-2015

Biochemistry Department Research Forums: The Biochemistry Department also hosts a series of Research Forums each semester. These are designed to highlight recent research accomplishments and ongoing research activities of the faculty and their research groups and are presented as public lectures. Scheduled forums can be found on the Biochemistry website.

Nozaki Distinguished Lecture Series: The Nozaki Lecture is an annual event in the Biochemistry department organized by our Nozaki Committee, which is made up of current Biochemistry graduate students. Many distinguished speakers have traveled to Durham to speak to the department as part of the Biochemistry Distinguished Lecture Series, supported by the Dr. & Mrs. Yasuhiko Nozaki Lectures Fund of Triangle Community Foundation. In 2014, Dr. Hiroshi Nikaido from the University of CA-Berkeley spoke about the Influx and Efflux of Antibiotics across E. coli. Cell Envelope.

Annual Department Retreat: Each year, members of the department, including faculty, students, post-docs, and technicians attend a departmental retreat. In the past, these trips have been held at the beach and mountains of North Carolina. First-year students and first-year program students are especially encouraged to attend. This weekend is full of poster sessions,
lab presentations, and fun. Details regarding the annual Retreat will be sent to all department members in late-August. Next year’s retreat will be held October 7-8, 2016 at the Holiday Inn SunSpree Resort in Wrightsville Beach, NC.

**Happy Hour:** The first Friday of each month at 4:00 pm, the department sponsors Happy Hour on the Nanaline Duke Patio (or on the 1st floor lobby of Nanaline Duke, weather permitting). The department provides an excellent selection of beverages (beer, wine and sodas) and snacks to socialize with your fellow department members. Everyone is welcome!

**Duke Bulls Baseball Game:** The Biochemistry Department sponsors a family night at the Durham Bulls. The event includes seats to watch the baseball game in a reserved party deck, dinner, beverages and fireworks after the game. Look for an email in mid-February for more information about this fun annual event!

**Duke Basketball Campout:** All graduate students have the opportunity to participate in the annual Duke Basketball Season Ticket Campout. For one weekend early in the fall semester (October 9-11, 2015) all interested graduate and professional students at Duke gather on campus with the hopes of winning an opportunity to purchase season basketball tickets. The rules are simple: make it through the weekend without missing two attendance checks and your name is entered into a lottery. Lottery winners are drawn and these individuals are eligible to buy one of the 725 graduate and professional season tickets. But Campout isn’t just about basketball tickets. With around 2,500 students representing nearly every program and department at the University in attendance, this is also the premier graduate and professional student social event of the year. Campout is an excellent opportunity to bond with your students in your own program and make friends in other programs. Campout will be held in the Blue Zone parking lots on Wannamaker Drive near Duke University Road. There is space at this location for students to set up tents or park rental trucks and RVs for the weekend. In order to participate in Campout 2015, **you must register between 5:00PM on Monday, September 14, 2015, and 5:00PM on Monday, September 28, 2015.** To register, click on the "Register for Campout" link which can be found at the following website: [https://sites.google.com/site/gpscbasketball/](https://sites.google.com/site/gpscbasketball/)

**Holiday Party:** The Biochemistry department hosts an annual holiday party for department members and their families in early-December, just before everyone travels home for the winter holidays. Join us for food, fun and door prizes!

**Recruitment Weekend:** During spring semester the department hosts potential graduate students who have applied for admission to the Duke Biochemistry Ph.D. program. Visitation weekend is an educational and exciting time when current and prospective grad student have the opportunity to meet, talk about the department's research opportunities, and show off Duke and Durham's unique culture and community. If you would like to volunteer to help with recruitment events, please contact the BGSO.
Room Reservations
Please see below for contact information to reserve space in various rooms across campus.

<table>
<thead>
<tr>
<th>Contact</th>
<th>Room (occupancy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amy Norfleet</td>
<td>Nanaline Duke Building: (1st &amp; 2nd floors)</td>
</tr>
<tr>
<td>681-8770, <a href="mailto:norfleet@duke.edu">norfleet@duke.edu</a></td>
<td>252B Nanaline Duke (25)</td>
</tr>
<tr>
<td>Peggy Wilkison</td>
<td>247 Nanaline Duke (15)</td>
</tr>
<tr>
<td>681-8804, <a href="mailto:prw2@duke.edu">prw2@duke.edu</a></td>
<td>147 Nanaline Duke (100-110)</td>
</tr>
<tr>
<td>Margot Wuebbens</td>
<td>209 Nanaline Duke (10)</td>
</tr>
<tr>
<td>684-3120, <a href="mailto:wuebb001@duke.edu">wuebb001@duke.edu</a></td>
<td>Sandy Building: 279 Sands (18)</td>
</tr>
<tr>
<td>Jackie Soderling, 684-8085</td>
<td>Nanaline Duke Building: (3rd &amp; 4th floors)</td>
</tr>
<tr>
<td><a href="mailto:Jacquelyn.soderling@duke.edu">Jacquelyn.soderling@duke.edu</a></td>
<td>384 Nanaline Duke (25)</td>
</tr>
<tr>
<td></td>
<td>437/439 Nanaline Duke (25-30)</td>
</tr>
<tr>
<td>Jennifer Goins, 684-3578</td>
<td>Sandy Building: 465 Sands (22) – left unlocked</td>
</tr>
<tr>
<td><a href="mailto:Immunologydept@mc.duke.edu">Immunologydept@mc.duke.edu</a></td>
<td>472 Sands (18) - locked</td>
</tr>
<tr>
<td>Med Center Room Reservations:</td>
<td>117A Jones (small room)</td>
</tr>
<tr>
<td>25Live</td>
<td>354 Jones (small room)</td>
</tr>
<tr>
<td><a href="https://25live.collegenet.com/duke">https://25live.collegenet.com/duke</a></td>
<td>321 Jones (small room)</td>
</tr>
<tr>
<td>For any questions, please call</td>
<td>Med Center Room Reservations: 25Live</td>
</tr>
<tr>
<td>684-9026 or email <a href="mailto:mcedrooms@mc.duke.edu">mcedrooms@mc.duke.edu</a></td>
<td>Including: 143 Jones (151)</td>
</tr>
<tr>
<td></td>
<td>103 Bryan Research (190)</td>
</tr>
<tr>
<td></td>
<td>001 MSRB (70)</td>
</tr>
</tbody>
</table>

Duke University Event Management: [http://events.duke.edu/facility/](http://events.duke.edu/facility/)

Event Management offers a wide-range of facilities to accommodate any event from meetings to banquets to theater shows. Our department works to provide all clients with an appropriate facility with all amenities and technical support to assure the successful completion of your next meeting or event.
### IMPORTANT DATES FOR 1ST YEAR GRADUATE STUDENTS:

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 17 – 20</td>
<td>New Student Orientation &amp; Course Registration</td>
</tr>
<tr>
<td>August 21 – 23</td>
<td>RCR Ethics Retreat – Beaufort, NC</td>
</tr>
<tr>
<td>August 24</td>
<td>Monday – Fall Semester classes begin.</td>
</tr>
<tr>
<td>August 31 – October 23</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; Rotation – Lab Rotation forms are due to the BGSO by August 25&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>October 26 – December 11</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Rotation – Lab Rotation forms are due to the BGSO by October 21&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td>November 4&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Spring 2016 Registration begins</td>
</tr>
<tr>
<td>January 13 – March 9</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; Rotation – forms are due to the BGSO by January 4&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>March 12 – 20</td>
<td>No Classes - Spring Break</td>
</tr>
<tr>
<td>March 21&lt;sup&gt;st&lt;/sup&gt;</td>
<td>Advisor/Lab Choice or 4&lt;sup&gt;th&lt;/sup&gt; Rotation Forms are due to the BGSO</td>
</tr>
<tr>
<td>April 1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>Lab choices are approved by the DGS. Financial Support Forms are given to students to be signed by Advisor(s) &amp; Department representatives.</td>
</tr>
</tbody>
</table>

### IMPORTANT DATES FOR 2ND YEAR BIOCHEMISTRY STUDENTS

- **Before November 1<sup>st</sup>**: Student submits a Committee Nomination Form to the Biochemistry Graduate Studies Office (BGSO) with recommend faculty for Supervisory Committee.
- **Late Fall**: DGS & Advisory Committee approves the Committee and assigns an Advisory Committee Member (ACM) to Prelim Committee.
- **January-February**: Student begins contacting committee members to schedule the Initial Committee Meeting. Once scheduled, the student informs the BGSO of the scheduled date.
- **early-Spring**: Student begins to discuss their career plans and objectives with their research advisor and other faculty such as their newly appointed advisory committees in preparation for creating a written Individual Development Plan (IDP) document.
- **At least 1 week prior to Initial Meeting**: Student submits 2-3 page written summary to all committee members.
- **Before May 13<sup>th</sup>**: Student holds Initial Committee Meeting (Pre-prelim).

### IMPORTANT DATES FOR 3<sup>RD</sup> YEAR BIOCHEMISTRY STUDENTS

- **No later than September 11<sup>th</sup>**: Student schedules oral preliminary exam and informs BGSO of the date.
- **At least 6 weeks prior to exam**: Student submits written prelim exam proposal to BGSO for format check.
- **At least 1 month prior to exam**: Student submits approved written proposal to all committee members.
- **Within 1 week of submission**: Committee members send requests for revisions to committee ACM/Chair.
- **No later than December 13<sup>th</sup>**: Prelim Supervisory Committee meets & administers the preliminary exam.
- **No later than May 1<sup>st</sup>**: Student creates an Individual Development Plan (IDP).
**IMPORTANT DATES FOR 4TH+ YEAR BIOCHEMISTRY STUDENTS**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before May 13th</td>
<td>Student schedules and completes the Annual Progress Meeting with their Ph.D. Supervisory Committee. BGSO should be notified of meeting date.</td>
</tr>
<tr>
<td>At least 1 week prior to meeting</td>
<td>Student submits 1-1 ½ page written summary to all committee members.</td>
</tr>
</tbody>
</table>

**Important Dates for the Dissertation Seminar & Defense**

**Apply for Graduation/Submission of the Intention to receive degree**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>May Graduation - January 25</td>
<td>Student must file an intention to receive degree on-line: <a href="http://aces.duke.edu/">http://aces.duke.edu/</a></td>
</tr>
<tr>
<td>September Graduation - June 15</td>
<td></td>
</tr>
<tr>
<td>December Graduation - October 15</td>
<td></td>
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</tbody>
</table>

**Initial Electronic Submission of the Dissertation Defense**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>May Graduation - TBD (mid-March)</td>
<td>At least two weeks before your defense, but prior to the initial submission deadlines (see left) for each semester, submit your dissertation to UMI/ProQuest: <a href="http://dissertations2.umi.com/cgi/login.cgi">http://dissertations2.umi.com/cgi/login.cgi</a></td>
</tr>
<tr>
<td>September Graduation - July 13</td>
<td></td>
</tr>
<tr>
<td>December Graduation - November 9</td>
<td></td>
</tr>
</tbody>
</table>

**Final Submission of the Dissertation Defense**

Final submission of your signed Exam Card & dissertation must occur within 30 days of your defense; however, if you defend within 30 days of the semester deadline of your graduation date, you must adhere to semester deadline, and do not have 30 days to complete your final submission.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>May Graduation - TBD (early-April)</td>
<td>Final day to hold the dissertation defense.</td>
</tr>
<tr>
<td>May Graduation - TBD (mid-April)</td>
<td>Final day to turn in Final Exam card by 5:00 pm and submit final version of dissertation to UMI/ProQuest by 3:00 pm.</td>
</tr>
<tr>
<td>September Graduation - July 27</td>
<td>Final day to hold the dissertation defense.</td>
</tr>
<tr>
<td>September Graduation - August 10</td>
<td>Final day to turn in Final Exam card by 5:00 pm and submit final version of dissertation to UMI/ProQuest by 3:00 pm.</td>
</tr>
<tr>
<td>December Graduation - November 23</td>
<td>Final day to hold the dissertation defense.</td>
</tr>
<tr>
<td>December Graduation - December 7</td>
<td>Final day to turn in Final Exam card by 5:00 pm and submit final version of dissertation to UMI/ProQuest by 3:00 pm.</td>
</tr>
</tbody>
</table>

**Deadlines subject to change:** [https://gradschool.duke.edu/academics/preparing-graduate/graduation-deadlines](https://gradschool.duke.edu/academics/preparing-graduate/graduation-deadlines)

**FACULTY EXPECTATION FOR THE COMPLETION OF A SUCCESSFUL PH.D. DEGREE**

To earn the Ph.D. degree in Biochemistry at Duke University, the Faculty of the Department of Biochemistry expects each graduate student to produce an independent body of original, high-quality scientific work. Though circumstances vary, this work will result in authorship on typically two peer-reviewed publications, including those on which the student is first author, prior to or soon after graduation.
THE FIRST YEAR
There are three main elements involved in the first year of graduate study in biochemistry:

- **Lab rotations**
- **Choosing a research advisor**
- **Course work**

### IMPORTANT DATES FOR 1\(^{\text{ST}}\) YEAR GRADUATE STUDENTS:

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 17 – 23</td>
<td>New Student Orientation, RCR Retreat &amp; Course Registration</td>
</tr>
<tr>
<td>August 24</td>
<td>Monday – Fall Semester classes begin.</td>
</tr>
<tr>
<td>August 31 – October 23</td>
<td>1(^{\text{st}}) Rotation – Lab Rotation forms are due to the BGSO by August 26(^{\text{th}})</td>
</tr>
<tr>
<td>October 26 – December 11</td>
<td>2(^{\text{nd}}) Rotation – Lab Rotation forms are due to the BGSO by October 21(^{\text{st}})</td>
</tr>
<tr>
<td>November 4(^{\text{th}})</td>
<td>Spring 2016 Registration begins</td>
</tr>
<tr>
<td>January 13 – March 9</td>
<td>3(^{\text{rd}}) Rotation – forms are due to the BGSO by January 4(^{\text{th}})</td>
</tr>
<tr>
<td>March 12 – 20</td>
<td>No Classes - Spring Break</td>
</tr>
<tr>
<td>March 21(^{\text{st}})</td>
<td>Advisor/Lab Choice or 4(^{\text{th}}) Rotation Forms are due to the BGSO</td>
</tr>
<tr>
<td>April 1(^{\text{st}})</td>
<td>Lab choices are approved by the DGS. Financial Support Forms are given to students to be signed by Advisor(s) &amp; Department representatives.</td>
</tr>
</tbody>
</table>

### Lab Rotations
Incoming graduate students generally complete at least, but not limited to, three laboratory rotations during the fall and beginning of the spring semesters. During orientation week, professors who are currently accepting graduate students into their labs give presentations on their research. These presentations help incoming students choose the labs that they would like to rotate through during the year. We encourage you to choose lab rotations that give you exposure to different types of research available in Biological Science at Duke. Each rotation generally lasts 7-8 weeks (see lab rotation schedule in “Important Dates” above). At the end of each lab rotation, each student will present the work they have accomplished along with other first year students during the seminar course, BIOCHEM 790S.

### Choosing a Research Advisor
After completing lab rotations, students will choose their lab and graduate research advisor. Students may wish to consult with any or all of the professors they have worked with and/or the Director of Graduate Studies before making this decision. They will be asked to submit their decision to the BGSO in mid March. **Approval of all research advisor choices will be made by the DGS, no earlier than April 1\(^{\text{st}}\),** regardless of lab choice submission date.

### Statement of Financial Support Form:
If a research advisor is chosen, who’s primary faculty appointment is outside Biochemistry, the BGSO will send the Statement of Financial Support Form by email. This form is required as part of the new policy for financial support by the School of Medicine. Advisors will be expected to commit and attest to the financial obligations outlined in the form by completing and signing the form. Each form must be signed by the following: 1) Advisor, 2) DGS of the PhD Granting Department, and 3) the Department Chair (of the Advisor). Names of the required signees will be listed on your individual forms.
Coursework & Registration

Typically, all coursework requirements are met in the first year of study. The Graduate School does not require registration for a fixed number of course units for the Ph.D. degree and leaves the specific course requirements up to the individual graduate program. Most graduate students in Biochemistry take several classes and two seminars each semester of their first year, including BIOCHEM 745S/746S, 790S, 658/659, 681, 667/668, and 695. These core courses are designed to evaluate student ability to read and analyze literature, present literature and analysis orally, demonstrate firm grasp of conceptual foundations of modern biochemistry and complete written term papers and/or exams. Students may customize their plan of study choosing from a broad list of available courses in the biomedical science graduate curriculum. Fall and spring courses of particular interest to Biochemistry students will be provided to students at Orientation and prior to spring term registration. These courses are also listed on the next several pages. For a current list of available classes each semester, you can also visit the ACES Website (http://soc.siss.duke.edu/psp/CSSOC01/?cmd=start).

Incoming students will register for fall courses during Orientation Week. The Biochemistry Advisory Committee will meet with each first year student to help with course selection for the fall semester. If needed, a second meeting to discuss spring courses can be scheduled by the student and/or committee before spring registration begins. You will receive spring registration instructions from the BGSO, as well as for each term thereafter. Detailed instructions on how to register for courses through STORM/ACES can be found at the following website: http://www.registrar.duke.edu/registrar/studentpages/student/registrationinfo.html.

UPDATE: In addition to the courses below, Biochemistry will be implementing a seminar series for our more senior graduate students (Years 4+). This will fill a hole in our current system whereby these more advanced students do not have many opportunities to present their research in a more formal setting. This will likely be initiated as a “Senior Biochemistry Graduate Student Seminar Series” that will offer graduate students and postdoctoral fellows the chance to give a seminar to their peers as well as any interested Biochemistry Faculty members. We also plan to add more advance courses that are based in the scientific expertise of our faculty and the implementation of a more formal scientific writing course.

FALL Courses of Interest to Biochemistry Graduate Students

BIOCHEM 593 - Independent Study  (var credits)
Instructor:  Staff/DGS-Spicer
Days/Time/Location:  N/A (lab rotations)

Individual research in a field of special interest, under the supervision of a faculty member, the major product of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Designed for students interested in either a laboratory or a library project in biochemistry. One to twelve variable units for graduate students.

BIOCHEM 745S - Biochemistry Seminar  (1 unit)
Instructor:  Brennan
Days/Time/Location:  W, 4:30–5:30 pm, 252B Nan Duke or 439 Nan Duke

Required of all first, second & third year biochemistry graduate students. Student presented papers/research. The primary goal of this course is for students to learn how to present the background, data, conclusions and future prospects of their research clearly and concisely. Each second and third year student is required to present a seminar annually (in the fall or spring term), with students providing peer evaluations of each presenter.
BIOCHEM 790S - Seminar (Topics)  (2 units)
Instructor:  Kuehn
Days/Time/Location:  M W, 10:45–11:45 am, 252B Nan Duke
This is a 2-credit discussion-based course covering selected topics in Biochemistry. Topics and instructors announced each semester. Open to Biochemistry department and SBB program graduate students.

BIOCHEM 658 - Structural Biochem I  (2 units)
Instructor:  Beese
Structure of Macromolecules - Principles of modern structural biology. Protein-nucleic acid recognition, enzymatic reactions, viruses, immunoglobulins, signal transduction, and structure-based drug design described in terms of the atomic properties of biological macromolecules. Discussion of methods of structure determination with particular emphasis on macromolecular X-ray crystallography NMR methods, homology modeling, and bioinformatics. Students use molecular graphics tutorials and Internet databases to view and analyze structures.

BIOCHEM 659 - Structural Biochem II  (2 units)
Instructor:  Zhou
Molecular Biology I - Continuation of BCH 258. Structure/function analysis of proteins as enzymes, kinetics of binding, catalysis and allostery, protein folding, stability and design protein-protein interactions. This is an introductory course to learn how to use quantitative methods to understand biological structure and function.

BIOCHEM 681 – Physical Biochemistry  (3 units)
Instructor:  Oas
Days/Time/Location:  T Th, 10:05–11:20 am, 147 Nan Duke
A structure-based introduction to the role of thermodynamic driving forces in biology. An overview of experimental sources of structural and dynamic data, and a review of the fundamental concepts of thermodynamics. Both concepts are combined to achieve a structural and quantitative mechanistic understanding of allosteric regulation, and of coupled ligand binding and conformational change. Statistial thermodynamics is used to develop ensemble models of protein and nucleic acid dynamics. This treatment leads into specific examples and general principles of how to interpret structural and dynamic information toward the purposes of other research.

Fall Courses of Interest Offered by Other Departments:

BIOLOGY 701 – Succeeding in Graduate School in the Biological Sciences  (0.5 units)
Instructor:  Noor
Days/Time/Location:  W, 12:00–1:00 pm, LSRC A247  (1st Half Semester: 8/26/2015 - 9/30/2015)
Weekly lecture and Q&A on choosing a thesis advisor, the grant proposal and scientific manuscript peer review processes, and other topics related to succeeding in graduate school. Also counts for RCR credit. Minicourse, 1st half-semester. See below for 2nd half-semester course.

BIOLOGY 702 – Succeeding Beyond Graduate School  (0.5 units)
Instructor:  Noor
Days/Time/Location:  W, 12:00–1:00 pm, LSRC A247  (2nd Half Semester: 10/14/2015 – 11/18/2015)
Succeeding Beyond Grad School: Career Options with a PhD in the Biological Sciences - Weekly lecture and Q&A on alternative careers in the biological sciences, preparing job applications, and other topics related to succeeding beyond graduate school. Also counts for RCR credit.
CBB 520 – Genome Tools and Technologies (3 units)
Instructor: Dietrich
Days/Time/Location: T Th, 10:05–11:20 am, Perkins LINK 087 (Classroom 3)

The course introduces the laboratory and computational methodologies for genetic and protein sequencing, mapping and expression measurement. Prerequisites: Students are expected to have some background course work in genetics, molecular biology, biochemistry, and a modern programming language.

CBB 574 – Modeling and Engineering Gene Circuits (3 units)
Instructor: Lingchong You
Days/Time/Location: W F, 11:45 am–1:00 pm, Perkins LINK 087 (Classroom 3)

This course discusses modeling and engineering gene circuits, such as prokaryotic gene expression, cell signaling dynamics, cell-cell communication, pattern formation, stochastic dynamics in cellular networks and its control by feedback or feedforward regulation, and cellular information processing. The theme is the application of modeling to explore "design principles" of cellular networks, and strategies to engineer such networks. Students need to define an appropriate modeling project. At the end of the course, they're required to write up their results and interpretation in a research-paper style report and give an oral presentation. Prerequisites: Biomedical Engineering 260L or consent of instructor. WF. 1:25pm-2:40pm (check with instructor or correct time of class).

CMB 551 - Cell & Molecular Biology (4 units)
Instructor: Nicchitta, Mathey-Prevot
Days/Time/Location: M W F, 10:20–11:40 am, 384 Nan Duke

This class teaches 24 topics covering a wealth of cell and molecular biology in a flexible modular format. In the course of covering the topic, most modules involve either in-depth critical discussion of primary literature, or an emphasis on developing quantitative and mathematical approaches to the biology, or both. Each module consists of 5 or 6 classes. Students may select any 6 (non-concurrent) modules to take. Each module contributes to 10% of the final grade. At the end of the class, students pair up and devise a research proposal that is honed over a two-week period with an assigned faculty coach. All proposals are presented orally to the entire class in a 2-day symposium in mid-December, contributing 40% of the final grade.

CMB 797 - Modern Techniques in Molecular Biology (2 units)
Instructor: Datto
Days/Time/Location: M W F, 8:45–9:35 am, 4002 GSRB I (Snyderman Bldg)

This course introduces the fundamental laboratory techniques used in basic research. It is divided into two sections. One section covers techniques used for protein purification, analysis, and the study of protein-protein interactions. The second covers nucleic acid based techniques, including a review of basic nucleic acid chemistry, enzymatic modification, qualitative and quantitative PCR, nucleic acid sequencing, cloning strategies, vectors, and measurement of transcript expression including microarray techniques. This course is built around a team-based learning model. Course reading material and recorded lectures are provided to students to review before class and class time is spent reinforcing the material through problem sets and group discussion. (Mini-course - 1st Half Semester: 8/26/2015 - 9/30/2015)

CMB 590-01 – Special Topics in Chemistry: Microscopy of Living Systems (4 units)
Instructor: Welsher
Days/Time/Location: M W F, 8:45–9:45 am, TBA

Special topics in chemistry and chemistry-related areas.
MGM 702/UPGEN 702 – Scientific Writing (Writing Grant Proposals) (3 units)
Instructor: Marchuk
Days/Time/Location: M W F, 8:45–9:45 am, Soc Psy 130
- Introduction to grant and fellowship writing; writing assignment of two proposal topics; evaluation and critique of proposal by fellow students.

MGM 720 – Computational Tools in Next Generation Genomic Analysis (3 units)
Instructor: Dietrich
Days/Time/Location: T Th, 1:25–2:40 pm (lecture) & 3:05–4:20 pm (lab), 289 CARL
- This course is an intensive, one semester course in computer skills necessary to carry out analysis of next generation genomic data. The philosophy for this course is that we are training PhD students, and they should have a fairly in-depth understanding of how this analysis is carried out. This course offers that understanding. The course will involve only a small amount of lecture, and be primarily a hands-on laboratory with extensive discussion. Permission number from Instructor required for registration. Class size is limited to 6 students.

NEUROBIO 719 – Concepts in Neuroscience I (3 units)
Instructor: West
Days/Time/Location: M W F, 8:45–11:00 am, TBA
- Cellular and Molecular Neurobiology - The goal of this course is to introduce graduate students to the basic principles underlying neuronal signaling. The first part of the course will explore the generation and propagation of neuronal electrical signals and the second part will consider synaptic signaling and plasticity. An interactive discussion-based format focused on key discoveries in these areas of research, including analysis of original papers, will allow students to learn how the brain encodes, transmits, and stores information. Instructor consent required.

MOLCAN 818/PHARM 818 – Molecular Mechanisms of Oncogenesis (2 units)
Instructor: Counter and Yao
Days/Time/Location: T Th, 10:05–11:20 am, C335 LSRC
- This course is a lecture presentation and discussion course on the molecular mechanisms underlying cancer development in which students complete periodic tests, present a paper, and work in a group to write and defend a grant proposal. The objective of the course is to provide an opportunity for in-depth discussions of molecular mechanisms underlying the development of human cancers. The course is intended for second-year students who have already taken the course of Cell Signaling. Instructor consent required.

PHARM 835 – Innovations in Drug Development (2 units)
Instructor: Rochelle D. Schwartz-Bloom
Days/Time/Location: M W, 3:05–4:20 pm, C335 LSRC
- Introduction to major issues in developing a drug to treat a disease in an interdisciplinary lecture-based and team-based learning environment. Translation of principles in biomedical sciences, biomedical engineering, and chemistry along with innovative approaches to develop a hypothetical drug for treating a disease of choice. Hypothetical development of model compounds, target analysis, and in vitro and in vivo models to test drug efficacy. The 1st half of the course will include lecture/discussion from experts (including faculty from Duke departments, and others from industry) on topics relevant to drug development—from target identification to market. The 2nd half of the course will be a team-based learning approach as students "develop their drug" and share their discovery with the other teams. Course requires one of the following (or equivalent): Pharm 533, Chem 518, or BME 577. This course is for 2nd+ year students.
PHARM 733-01 (733-02, 733-03) – Experimental Design and Statistics (2 units)
Instructor: Slotkin
Days/Time/Location: *see description below, C144 LSRC

Experimental Design and Biostatistics for Basic Biomedical Scientists: The use and importance of statistical methods in laboratory science, with an emphasis on the nuts and bolts of experimental design, hypothesis testing, and statistical inference. Central tendency and dispersion, Gaussian and non-Gaussian distributions, parametric and nonparametric tests, uni- and multivariate designs, ANOVA and regression procedures. Ethical issues in data handling and presentation. Student presentations in addition to formal lectures. Intended for third-year graduate students. Instructor consent required.

*Section 01: Tu 8:30 – 10:15 am; Section 02: W 8:30 – 10:15 am; Section 03: Th 8:30 – 10:15 am

SBB 682T – Advanced Physical Biochemistry (3 units)
Instructor: Oas
Days/Time/Location: TBA - Contact course instructor for times & location.

Transient kinetics, computational methods, multidimensional NMR, x-ray crystallography, and thermodynamics of association. Prerequisite: Structural Biology and Biophysics or consent of instructor. Oas; Tutorial – contact Course Director for time & location.

UPGEN 778 – Genetic Solutions to Biological Problems (4 units)
Instructor: Haase
Days/Time/Location: M W F, 3:20–4:10 pm, TBA (http://upg.duke.edu/about/index.html)

Genetic Approaches to the Solution of Biological Problems - Use of genetic approaches to address research problems in cell and developmental biology. Genetic fundamentals build up to modern molecular genetic strategies including genetic screens, reverse genetics, genetic interactions, dominant negative mutants, and more. Several major genetic model organisms used to illustrate general principles. Offers 18 focus areas covering a wealth of genetics and genomics areas, that include 3 broad categories: I - Quantitative Genetics and Genomics, II - Model Organism Genetics and Genomics, and III - Topics in Genetics and Genomics (III). A module consists of six classes and students select a sequence of six consecutive modules. There are 6 sessions containing three modules. Students choose one module per session.

SPRING Courses of Interest to Biochemistry Graduate Students

BIOCHEM 593 - Independent Study (var credits)
Instructor: Staff/DGS- Spicer
Days/Time/Location: N/A (lab rotations)

Individual research in a field of special interest, under the supervision of a faculty member, the major product of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Designed for students interested in either a laboratory or a library project in biochemistry. One to twelve variable units for graduate students.

BIOCHEM 746S - Biochemistry Seminar (1 unit)
Instructor: Brennan
Days/Time/Location: W, 4:30–5:30 pm, 439 Nan Duke

Required of all first, second & third year biochemistry graduate students. Student presented papers/research. The primary goal of this course is for students to learn how to present the background, data, conclusions and future prospects of their research clearly and concisely. Each second and third year student is required to present a seminar annually (in the fall or spring term), with students providing peer evaluations of each presenter.
BIOCHEM 667* - Biochemical Genetics I  (2 units)
Instructor: Kreuzer
Days/Time/Location:  T Th, 10:05–11:20 am, 439 Nan Duke (1st Half-Semester) – NOT OFFERED SPRING 2016

DNA and Genome Stability – Chromatin and chromosome structure, replication, repair, genetic recombination, mutation and chromosome rearrangement.

BIOCHEM 668* - Biochemical Genetics II  (2 units)
Instructor: Been
Days/Time/Location:  T Th, 10:05–11:20 am, 439 Nan Duke (2nd Half-Semester) - NOT OFFERED SPRING 2016

RNA to Protein - Mechanisms of transcription, splicing, catalytic RNA, RNA editing, mRNA stability & translation.

*BCH 667 & 668: The major emphasis of both courses will be on reading and discussing primary research papers in depth. The idea is to explore how new concepts have been developed in nucleic acids biology and biochemistry and what types of experiments have made advance possible. This will be done in two ways. First, each section of the course will consist of background lecture material presented as needed by the faculty member. Then there will be several sessions to discuss papers selected by the faculty as paradigm papers. The students will present these papers orally using figures from the papers and explanatory background as needed. Second, students will prepare an 8-10 page research paper at the end of one course and an oral talk of about 20 minutes at the end of the other.

BIOCHEM 695 – Understanding NMR Spectroscopy  (4 Units)
Instructor: Al-Hashimi and Staff
Days/Time/Location:  T Th, 10:05-11:20 am; 279 Sands

This course is aimed at graduate students who have some familiarity with high-resolution NMR and who wish to deepen their understanding of how NMR experiments actually 'work'. The course concentrates on the description of commonly-used experiments and explains in detail the theory behind how such experiments work. The quantum mechanical tools needed to understand pulse sequences are introduced, but the approach is relatively informal with the emphasis on obtaining a good understanding of how the experiments actually work. The course also covers advanced modern biomolecular NMR experiments that enable structural and dynamic characterization of biomolecules, including spin relaxation, relaxation dispersion, and anisotropic interactions such as RDCs and RCSAs. For roughly half of the course, students will be expected to follow online lectures that accompany the course textbook, with class meetings emphasizing concepts, group discussion, and problem solving.

BIOCHEM 622 (SBB 622) - Structure of Biological Macromolecules  (3 Units)
Instructor: Richardson
Days/Time/Location:  Th, 1:25–3:25 pm; 132 Nan Duke

Once a week in-class presentations, discussion, and hands-on work with physical and computer molecular models. Homework includes worksheets and individual student projects. Grade based on project report and class participation. How to get the most out of experimental and computational 3D structure: a) 3D Molecular Literacy: Computer and physical molecular models of proteins and nucleic acids; worksheets and hands-on exploration. b) Data bases and the data itself: gaining familiarity with the PDB (Protein Data Bank) in general, the EDS (Electron Density Server), and the peculiarities, caveats, and reliabilities of different categories of molecular data. c) Computational methods for studying and depicting macromolecules: Model building in structural biology, Molprobity and all-atom contact analysis, and methodologies for multiple conformations, ensembles, and mobility. d) Student Projects: interactive 3D illustration of some scientific point about macromolecules, using kinemages or other molecular graphics programs often with short non-interactive introduction. Reports given at end of semester, progress shown periodically.
**BIOCHEM 536 (CHEM 536) - Bioorganic Chemistry** (4 Units)
**Instructor:** McCafferty
**Days/Time/Location:** M W F, 10:20–11:10 am; A156 LSRC

Basic enzymology, mechanisms of enzymatic reactions, cofactors, oxidoreductases, C1 chemistry, carbon-carbon bond formation, carboxylation/decarboxylation, heme, pyridoxal enzymes, thiamine enzymes.

**BIOCHEM 760 (CELLBIO 760) - Cellular Signaling** (3 Units)
**Instructor:** Caron
**Days/Time/Location:** M W F, 8:45–9:35 am; 147 Nan Duke (or Physics 128)

Mechanism of action of hormones at the cellular level including hormone-receptor interactions, secondary messenger systems for hormones, mechanisms of regulation of hormone responsiveness, regulation of growth, differentiation and proliferation, mechanisms of transport and ion channels, stimulus sensing and transduction. Some lectures stress clinical correlation of basic course concepts.

**SPRING COURSES OF INTEREST OFFERED BY OTHER DEPARTMENTS:**

**MGM 552 – Virology** (3 Units)
**Instructor:** Cullen
**Days/Time/Location:** M W F, 3:20–4:10; 408 CARL (or TBA)

Molecular biology of mammalian viruses, with emphasis on mechanisms of replication, virus-host interactions, viral pathogenicity, and the relationship of virus infection to neoplasia.

**IMM 800 - Comprehensive Immunology** (3 Units)
**Instructor:** Qijing Li
**Days/Time/Location:** M W F 10:20–11:10 am; 321 Jones Bldg

An intensive course in the biology of the immune system and the structure and function of its major components. In sectioned lectures, we will have leading experts to discuss with you, in depth, the major challenges, major discoveries, as well as major conflicts in listed areas of immunology. Specifically, we will focus on the evolution of our understandings: what was the original question, how it was approached and what is still missing to complete the picture. These lectures were largely split into three sections: T cell biology, B cell biology, and immune regulation. There will be three individual take-home exams and your final grade will be compiled with results from all three exams. This is a required course for students specializing in immunology. Consent of instructor required for registration.

**PATHOL 785 - Molecular Aspects of Disease** (3 Units)
**Instructor:** Bachelder & He
**Days/Time/Location:** T Th, 8:30–10:25 am; 151 MSRB I

This course is based upon the study of the background, investigative method and recent advances in understanding the molecular basis of selected diseases, with an in-depth focus on a small number of diseases where defects are known at genetic or molecular levels.

**PATH 786 - Translational Aspects of Pathobiology** (3 Units)
**Instructor:** Devi
**Days/Time/Location:** W, 1:00–2:30 pm; 451 MSRB I

Translational Research in Pathobiology is an integrated multidisciplinary course designed to provide students with the necessary tools to understand the principle components of the research processes involving patients or materials obtained from a human source. This course reflects the Department of Pathology's unique integration of traditional pathology research with experimental therapeutics in an environment that seeks to bridge the basic sciences and clinical medicine.
The course is designed for first-year graduate students to learn the fundamentals of stem cell biology and to gain familiarity with current research in the field. The course will be presented in a lecture and discussion format based on the primary literature. Topics include: stem cell concepts, methodologies for stem cell research, embryonic stem cells, adult stem cells, cloning and stem cell reprogramming and clinical applications of stem cell research.

**MGM 552 – Virology** (3 Units)
**Instructor:** Cullen  
**Days/Time/Location:** M W F, 3:20–4:10; 408 CARL (or TBA)  
Molecular biology of mammalian viruses, with emphasis on mechanisms of replication, virus-host interactions, viral pathogenicity, and the relationship of virus infection to neoplasia.

**MGM 582 - Microbial Pathogenesis** (3 Units)
**Instructor:** Valdivia  
**Days/Time/Location:** M W F, 1:30–2:30, 001 MSRB I  
Lecture & discussion format designed for first-year graduate students. Modern molecular genetic approaches to understanding the pathogenic bacteria and fungi. Underlying mechanisms of pathogenesis and host-parasite relationships that contribute to the infectious disease process.

**CBB 511 – Journal Club/Research in Progress** (1 Unit)  
**Instructor:** Schmidler  
**Days/Time/Location:** F, 10:30–11:30 am; 4233 FFSC  
A weekly series of discussions led by students that focus on current topics in computational biology. Topics of discussion may come from recent or seminar publications in computational biology or from research interests currently being pursued by students. First and second year CBB doctoral and certificate students are strongly encouraged to attend as well as any student interested in learning more about the new field of computational biology.

**CBB 540 (STA 613) – Statistical Methods for Computational Biology** (3 Units)  
**Instructor:** Mukherjee  
**Days/Time/Location:** T Th, 3:05–4:20 pm; TBA  
Methods of statistical inference and stochastic modeling with application to functional genomics and computational molecular biology. Topics include: statistical theory underlying sequence analysis and database searching; Markov models; elements of Bayesian and likelihood inference; multivariate high-dimensional regression models, applied linear regression analysis; discrete data models; multivariate data decomposition methods (PCA, clustering, multi-dimensional scaling); software tools for statistical computing. Prerequisites: multivariate calculus, linear algebra and Statistics 611.

**CBB 561 (COMPSCI 561) – Computational Sequence Biology** (3 Units)  
**Instructor:** Gordan  
**Days/Time/Location:** T Th, 4:40–5:55 pm; Social Sciences 311  
Introduction to algorithmic and computational issues in analysis of biological sequences: DNA, RNA, and protein. Emphasizes probabilistic approaches and machine learning methods, e.g. Hidden Markov models. Explores applications in genome sequence assembly, protein and DNA homology detection, gene and promoter finding, motif identification, models of regulatory regions, comparative genomics and phylogenetics, RNA structure prediction, post-transcriptional regulation. Prerequisites: basic knowledge algorithmic design (Computer Science 530 or equivalent), probability and statistics (Statistical Science 611 or equivalent), molecular biology (Biology 118 or equivalent). Alternatively, consent instructor.
CBB 612 (Genome 612) – Responsible Genomics (3 Units)
Instructor: Chandrasekharan
Days/Time/Location: T Th, 3:05–4:20 pm; TBA
Methods of statistical inference and stochastic modeling with application to functional genomics and computational molecular biology. Topics include: statistical theory underlying sequence analysis and database searching; Markov models; elements of Bayesian and likelihood inference; multivariate high-dimensional regression models, applied linear regression analysis; discrete data models; multivariate data decomposition methods (PCA, clustering, multi-dimensional scaling); software tools for statistical computing. Prerequisites: multivariate calculus, linear algebra and Statistics 611.

PHARM 733-01 (733-02, 733-03) – Experimental Design and Statistics (2 units)
Instructor: Slotkin
Days/Time/Location: *see description below, C144 LSRC
Experimental Design and Biostatistics for Basic Biomedical Scientists: The use and importance of statistical methods in laboratory science, with an emphasis on the nuts and bolts of experimental design, hypothesis testing, and statistical inference. Central tendency and dispersion, Gaussian and non-Gaussian distributions, parametric and nonparametric tests, uni- and multivariate designs, ANOVA and regression procedures. Ethical issues in data handling and presentation. Student presentations in addition to formal lectures. Intended for third-year graduate students. Instructor consent required.

*Section 01: Tu 8:30 – 10:15 am; Section 02: W 8:30 – 10:15 am; Section 03: Th 8:30 – 10:15 am

PHARM 755 – Neurotoxicology (3 units)
Instructor: Abou-Donia
Days/Time/Location: W, 1:25–3:15 pm, C144 LSRC
Adverse effects of drugs and toxicants on the central and peripheral nervous system; target sites and pathophysiological aspects of neurotoxicity; factors affecting neurotoxicity, screening and assessment of neurotoxicity in humans; experimental methodology for detection and screening of chemicals for neurotoxicity.

SBB 682T – Advanced Physical Biochemistry (3 units)
Instructor: Oas
Days/Time/Location: Contact course instructor for times & location.
Transient kinetics, computational methods, multidimensional NMR, x-ray crystallography, and thermodynamics of association. Prerequisite: Structural Biology and Biophysics or consent of instructor. Oas; Tutorial – contact Course Director for time & location.

UPGEN 532 – Human Genetics (3 Units)
Instructor: Marchuk
Days/Time/Location: T Th, 10:00–11:30 am; 209 Nan Duke
Topics include segregation, genetic linkage, population genetics, multifactorial inheritance, biochemical genetics, cytogenetics, somatic cell genetics, neurogenetics, cancer genetics, clinical genetics, positional cloning, and complex diseases. Lectures plus weekly discussion of assigned papers from the research literature.

Additional courses offered by departments in the Biomedical Sciences: A list of courses offered from departments in the Basic Sciences can be found on the School of Medicine Biomedical Graduate Education website: [http://medschool.duke.edu/phd-programs/course-listings](http://medschool.duke.edu/phd-programs/course-listings)
Responsible Conduct of Research (RCR)

Responsible Conduct of Research (RCR) training is a formal requirement of the Ph.D. degree in every department and program of study at Duke. This reflects our expectation that every doctoral candidate will be well qualified to address the growing ethical challenges that arise when teaching or conducting research. All matriculating Ph.D. students in the Basic Medical Sciences at Duke University are required to complete 18 hours in RCR training. To accomplish this, each Ph.D. student must attend RCR Orientation, a post-orientation weekend retreat on RCR at the Duke University Marine Laboratory in the coastal town of Beaufort, North Carolina (known at Duke as the "Beaufort Retreat"). Students should also attend at least 2 hours of an “elective” RCR Forum on a variable topic selected by the student, and attend the new 4-hour required 3rd year training to meet the number of training hours required. Transcript Credit: Completion of the RCR requirement will be monitored by the Graduate School and documented on each student's university transcript. Each Ph.D. student can 'add up' his/her RCR credit hours by reviewing their official transcript or Academic History in ACES. For more information about RCR, visit the following Graduate School site: http://gradschool.duke.edu/professional-development/programs/responsible-conduct-research

2015 RCR Orientation Retreat: Basic Medical Sciences (GS 310B: Beaufort workshop)
Duke Marine Laboratory, Beaufort, NC
August 21-23, 2015 (Friday through Sunday - Transportation, lodging, and meals provided)
For more info, see: http://medschool.duke.edu/phd-programs/rcr-orientation/beaufort-retreat

3rd Year RCR course for graduate students in the Basic Medical Sciences: A new, 4 credit-hour RCR course will be required of all third year graduate students as a sequel to the first year RCR Beaufort course. The course will be held at a local off-campus location every May/June for students at the end of their 3rd year of graduate school. Students who have not completed their PhD by the end of their 7th year and have not retrained since taking the 3rd year course, will be required to retake the course. This policy will ensure that all students are retrained at least every 4 years, which is a new NIH requirement.

GS711 RCR Forums: Beyond the RCR orientation, each PhD student should complete six additional hours of RCR training during his or her first four years of study. This requirement can be met by attending three RCR Forums (two-hour workshops, GS711 or GS712), which are offered each fall and spring on a wide range of topics. The schedule of RCR Forums will be provided at the beginning of each semester. Students are responsible for checking the schedule, preregistering, and participating in these events to complete their RCR degree requirement. Students must pre-register for RCR Forums on the Graduate School web site - NOT through ACES.

GS712 Departmental RCR Forums: The Graduate School collaborates with other Duke Schools, departments, campus centers, and offices to promote discipline-specific training in RCR-related issues. While many groups may sponsor events on ethical topics, only events focused on 'research' ethics and pre-approved by The Graduate School will qualify for RCR transcript credit. Contact the Grad School if you are uncertain whether an event will qualify.

To view the current schedule of RCR Forums, visit: http://gradschool.duke.edu/professional-development/programs/responsible-conduct-research/rcr-forums. The forums, along with other events, can also be found on the Graduate School’s calendar of events, which can be viewed at: http://gradschool.duke.edu/student-life/events
THE SECOND YEAR

The principal events that occur during the second year of graduate study in biochemistry are committee selection and the initial committee meeting (also called the “pre-prelim”). The teaching requirement is also generally completed during the fall or spring semester of the second year.

<table>
<thead>
<tr>
<th>IMPORTANT DATES FOR 2ND YEAR BIOCHEMISTRY STUDENTS</th>
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<tbody>
<tr>
<td><strong>Before November 1st</strong></td>
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<tr>
<td><strong>Late Fall</strong></td>
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<tr>
<td><strong>early-Spring</strong></td>
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<tr>
<td><strong>January-February</strong></td>
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<tr>
<td><strong>At least 1 week prior to Initial Meeting:</strong></td>
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<td><strong>Before May 13th</strong></td>
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</tbody>
</table>

**Supervisory Committee Selection**

Each student, after consultation with her/his mentor and each proposed committee member, provides the Biochemistry Graduate Studies Office (BGSO) with a list of faculty members they recommend to be a member of their Supervisory Committee no later than November 1st of the Fall semester. The committee recommendations should consist of at least four members and include at least three graduate faculty members of the major department and one graduate faculty member from outside the department (the minor area representative)*. The recommendations are reviewed by the DGS, in consultation with the department Advisory Committee, for departmental approval. If approved, the BGSO will submit a Committee Nomination Form to the Graduate School for the Associate Dean’s approval (no later than 30 days before the preliminary examination date). If one or more members nominated by the student are not approved, the student will be informed by the DGS and asked to submit additional nominations.

*Outside Committee Member(s) Selection: The Graduate School now requires justification for choosing the minor area representative (the outside member) you are choosing to serve on your committee. This field is included on the Supervisory Committee Nomination Form.

**IMPORTANT:** All faculty members nominated for a prelim/dissertation committee must also be a member of the Graduate Faculty. You can check to see if faculty nominated for your committee are members of the Graduate Faculty by searching the following website: [http://gradschool.duke.edu/academics/graduate-faculty](http://gradschool.duke.edu/academics/graduate-faculty). If you have recommended a professor that is not a member of the Graduate Faculty (as are most faculty members from another university), you must submit a current CV (that includes the D.O.B.) for the faculty member along with your committee nomination form to the BGSO. The BGSO will then submit a “Nomination Form for Term Membership on the Graduate Faculty” to the Graduate School for approval.
For the preliminary examination, the advisor will be replaced by one member from the Graduate Advisory Committee who will serve as chair for the preliminary exam. Members from the Advisory Committee serve as chairs of all exams for a given year to “standardize” the exams and ensure their fairness. Note that, even if other Advisory Committee members are on the Prelim Committee, the stand-in chair may be an additional Advisory Committee Member (ACM); this stand-in chair will be appointed by the DGS, in consultation with the Advisory Committee. Committee approval and ACM assignments will be communicated to each student by e-mail. Note for Program Students: Program students are reminded to pay attention to any program-specific committee requirements.

Changes to the Supervisory Committee

If a student requires a change to their Prelim/Dissertation supervisory committee, the BGSO will need to be notified by e-mail at the earliest convenience. This e-mail should include an updated Committee Nomination Form which can be found on the Biochemistry website. Before any request is sent, the student should consult with her/his mentor and the faculty member(s) they are planning to remove/add.

Individual Development Plan (IDP)

Students should begin to discuss their career plans and objectives with their research advisor and other faculty such as their newly appointed advisory committees in preparation for creating a written individual development plan (IDP) document. Individual Development Plan (IDP) are initiated and driven by the graduate student in preparation for the 3rd year SoM RCR-Career Development Session. We suggest that students use the AAAS online tool (http://myidp.sciencecareers.org/) to assess their areas of interest and use it to develop a plan (which is expected to change from time to time during their program). Once students have a draft plan or an outline of a plan, the student is expected to meeting with his/her research advisor (and at least once a year afterward) to discuss the developing plan. The student may also want to meet with their graduate dissertation committee members as well in reaching a full plan. Each year the plan is to be reviewed by the student in consultation with the research advisor to adjust the plan if needed. Along the way the student may also use any additional online or published tools that are available in the process of adjusting the plan. The IDP template from the Graduate Advisory Council and the template created by FASEB are detailed on the next several pages for additional options.

The objectives of IDPs are to encourage students to:

1) Reflect on their training and career goals
2) Self-assess their skills and competencies
3) Discuss their goals and competencies with their mentor
4) Develop short- and long-term training goals

The IDP should also include a meeting with an advisor/mentor (ie. your annual committee meeting). More detailed information about the IDP can be found in the “Third Year” section of this handbook – see page 32.

You can also find additional information about the IDP and Career & Professional Development Resources at the following Office of Biomedical Graduate Education website: https://medschool.duke.edu/education/degree-programs-and-admissions/office-biomedical-graduate-education/professional-development
**The Initial Committee Meeting**

The initial meeting takes place before May 13th of the second year. The overall purpose is to acquaint the faculty members with the student and the student's proposed research project. Students should arrange the meeting with their supervisory committee and report its time and place to the BGSO.

**Written Summary:** Students present a brief progress report on research accomplished to date and a brief idea of the general plans for the Dissertation research project. To facilitate the presentation, the student prepares a written summary (2-3 pages) and gives it to the committee members at least 1 week prior to the meeting date. The summary includes a brief statement of the problem and its significance, the goal of the research, and the proposed approach. Students should attempt to describe the flow of the project with a view toward defending it in the preliminary exam the following Fall (3rd yr) and toward developing it into a PhD research project.

The ACM should be given a copy of the written summary and be included in the initial meeting if he or she desires. The thesis mentor will be the "chair" of the initial meeting and all meetings subsequent to the prelim exam.

**Initial Meeting Forms:** Prior to the meeting, the ACM should obtain a copy of the Record of Initial Meeting Form and the student's academic information from the BGSO (Amy Norfleet). A copy of the Initial Meeting Evaluation Rubric will be sent to each committee member electronically by the BGSO prior to the meeting date. At the conclusion of the meeting, each committee member should sign the Record of Initial Meeting Form. The ACM/Chair of the committee should submit the signed Record of Initial Meeting Form and the student's academic information to the BGSO. After all parts of the Initial Meeting are complete, each committee member should complete the Initial Meeting Evaluation Rubric and return it to the BGSO electronically. A copy of the evaluation comments will be distributed to the student and advisor by the BGSO, to jointly read and discuss.

**Teaching**

All Biochemistry graduate students are required by the department to serve as a teaching assistant for at least one semester during their time here, usually during the second year of study. The department currently provides TA’s for the following courses: BIOCHEM 301 and 302 (Introduction to Biochemistry I and II), BIOCHEM 658/659 (Structural Biochemistry I & II), BIOCHEM 681 (Physical Biochemistry) and BIOCHEM 622 (Structure of Biological Macromolecules). Responsibilities generally include leading discussion sections and/or review sessions and grading assignments and exams. TA positions are assigned by the DGS before each semester and are communicated to the course instructors & graduate students by email.

**Certificate in College Teaching (CCT)**

This university-wide teaching certificate program, the Duke University Graduate School Certificate in College Teaching (CCT), is for enrolled PhD students in any department or program of study. This program makes use of departmental training and resources as well as Graduate School programming. The Certificate in College Teaching will appear on the transcript of PhD students who complete its requirements as an officially endorsed Duke University Graduate School certificate; it is being offered in order to recognize and validate professional development activities undertaken by PhD students and add competitiveness and value to PhDs awarded to Duke graduate students. The program requirements take about a year to complete, but that may vary as opportunities for gaining teaching experience vary across departments.
CCT work may be done alongside other classes, research, or work on a dissertation, and should not significantly interfere with the timely completion of any of these. After you apply to the CCT program, the program director will meet with you to go over the requirements and your timeline for completing them. More information can be found on the Graduate School Certificate in College Teaching website: http://gradschool.duke.edu/professional-development/programs/certificate-college-teaching

### Certificate in College Teaching (CCT) Requirements

1. **Coursework**
   Participants should successfully complete two courses in college teaching. This can include any combination of Graduate School and/or discipline specific pedagogy courses offered by a Department or Program. You can complete the coursework requirement at any time, either before or after enrolling as a CCT participant. Ideally, you would take the courses immediately before or in conjunction with your teaching experience. Course site: [http://gradschool.duke.edu/node/545](http://gradschool.duke.edu/node/545)

2. **Teaching Experience & Observation** ([http://gradschool.duke.edu/node/552](http://gradschool.duke.edu/node/552))
   Participants should have at least one semester in a formal teaching role that takes place after enrolling in the CCT program (i.e. previous teaching experience is not applicable.) A formal instructional role can include being the instructor of a class, or leading a discussion, lab or recitation section that meets regularly throughout the semester with you as the primary leader/facilitator of those meetings. If your role is that of a guest lecturer in a class, the instructional contact should be no less than four contact hours, spread out through the term (e.g., two guest lectures in the week a lecturing professor is at a conference would not qualify.) TAships limited to grading, office hours and/or administrative tasks are not considered a formal instructional role. With the approval of the CCT Program Director, other types of teaching experience may be used to fulfill this program requirement.

3. **Online Teaching Portfolio** ([https://gradschool.duke.edu/node/554](https://gradschool.duke.edu/node/554))
   The online teaching portfolio is completed after the other CCT requirements, which will provide you with materials for the portfolio. Your portfolio should be appropriate for use in a job search. The online teaching portfolio can be created in any web authoring tool the participant is comfortable using (Word Press, Dreamweaver, Google Sites, etc.). It may include a current CV, a teaching statement and other materials as appropriate to the student's discipline. A number of Duke PhD student portfolios can be found on the [GS 760 website](http://gradschool.duke.edu).
THE THIRD YEAR

During the third year of graduate study in biochemistry, students complete the Preliminary Examination. Successful completion of a preliminary examination is a requirement of the Graduate School for "Advancement to Candidacy", the process by which a student is officially deemed a candidate for a Ph.D. In the Department of Biochemistry, the prelim consists of two parts: a written proposal describing the student’s thesis research and an oral exam administered by the student’s Prelim Supervisory Committee.

### IMPORTANT DATES FOR 3RD YEAR BIOCHEMISTRY STUDENTS

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student schedules oral preliminary exam</td>
<td>No later than Sept 1st</td>
<td>Student schedules oral preliminary exam and informs BGSO of the date.</td>
</tr>
<tr>
<td>Student submits written prelim exam proposal to BGSO</td>
<td>At least 6 weeks prior to exam</td>
<td>student submits written prelim exam proposal to BGSO for format check.</td>
</tr>
<tr>
<td>Student submits approved written proposal to all committee members</td>
<td>At least 1 month prior to exam</td>
<td>Student submits approved written proposal to all committee members.</td>
</tr>
<tr>
<td>Committee members send requests for revisions to committee ACM/Chair</td>
<td>Within 1 week of submission</td>
<td>Committee members send requests for revisions to committee ACM/Chair.</td>
</tr>
<tr>
<td>Prelim Supervisory Committee meets &amp; administers the preliminary exam</td>
<td>No later than Dec 13th</td>
<td>Prelim Supervisory Committee meets &amp; administers the preliminary exam.</td>
</tr>
<tr>
<td>Student creates an Individual Development Plan (IDP)</td>
<td>No later than May 1st</td>
<td>Student creates an Individual Development Plan (IDP).</td>
</tr>
</tbody>
</table>

### Scheduling the Oral Prelim Examination

The biggest logistical problem with taking the prelim is finding a date for the oral exam that is acceptable to each member of the committee, including both the Advisory Committee Member (the ACM) who will serve as the committee chair for the prelim and the mentor (PI). Therefore, the student should have the oral exam date set before September 11th*. This lead-time should make it easier to schedule the exam and also give the student a deadline for preparing the proposal. The student is responsible for scheduling the exam, reserving the meeting space, and informing the committee and the Biochemistry Graduate Studies Office (BGSO) of the exam date. The exam should take place no later than December 13th of the third year of study.

*IMPORTANT*: You must be registered during the term in which you take the preliminary exam. During the fall & spring terms, students will now be allowed to schedule a preliminary exam on a date when classes are not in session (fall break, spring break, etc.). In the summer term a preliminary exam may be scheduled only between the opening and closing dates of the summer sessions. To view the official Duke academic calendars, visit the following website: [http://registrar.duke.edu/academic-calendar](http://registrar.duke.edu/academic-calendar)

**NOTE:** Students are encouraged to arrange a "mock" oral to prepare for this examination. Such practice may involve members of the student’s lab and other graduate students.

### The Graduate School teleconference policy for preliminary exams:

1. The majority of your committee must be present at the preliminary exam.
2. The thesis advisor/chair CANNOT teleconference into a preliminary exam.

If you plan to have a committee member teleconference into the exam, it needs to be approved by the Graduate School’s Associate Dean ([john.klingensmith@duke.edu](mailto:john.klingensmith@duke.edu)), prior to the meeting.

If a student receives prior authorization for a committee member to participate remotely in a preliminary exam, the Graduate School will no longer require that this person have their original
signature on the exam form. In lieu of an original signature, the Graduate School will accept an emailed PDF letter on institutional letterhead. The remote participant should email a scanned copy to the DGSA as a PDF. The DGSA will then submit it to the Graduate School. Templates for the text to use can be provided to remote participants (see template text below).

Template text for remote participants: On your university letterhead, use the following statement(s), filling in the correct information by replacing the *italicized* words below:

Date:

This letter is to verify that I participated in student’s name preliminary/master’s thesis/dissertation examination, in its entirety, via communication medium, eg Skype. I vote that the student passed/failed the exam.

(In the event of failure, indicate whether you recommend the student be allowed to retake the examination.)

Sincerely,

Your signature
Your name
Your title
Your email address

**Written Format of the Prelim Exam Proposal Document**

The goals of the written portion of the prelim exam are as follows:

1) To demonstrate proficiency in the student’s field of interest with respect to knowledge of the pertinent literature and the applicable techniques and the ability to pose incisive questions or hypotheses and design experiments to address them.

2) To familiarize the student with the process of preparing an NIH-style research grant proposal.

The Biochemistry preliminary exam document is based on a shorter version of the NIH-style research proposal. The following guidelines and requirements (*detailed on the next several pages*) are provided to help students write a clear, well-supported proposal that highlights their ability to identify and explain important problems and design approaches to solve them. It is important that the wording of the proposal originates from the student and does not come directly from previously written proposals or manuscripts. The student’s mentor is encouraged to participate in the preparation and editing of the written proposal. Students are urged to ask their advisor to read the proposal prior to distribution to the committee and make suggestions to improve style, language and clarity of the document. The advisor may also provide assistance to assure that the proposal conforms to the guidelines. Such participation will increase the probability that the proposal will be acceptable to the committee and will minimize the need for revisions after submission. However, it is anticipated that the committee may often request specific revisions.
Components of the Proposal | Page Limits
--- | ---
I. Title of Project | Do not exceed 81 characters (including spaces & punctuation)
II. List of Scientific Abbreviations | No page limit
III. Description | Do not exceed 350 words
IV. Research Plan – Includes the following items: | Do not exceed 15 pages* (for items a-d of the Research Plan)
   a) Specific Aims | Do not exceed 1 page
   b) Background and Significance | Do not exceed 4 pages (including figures)
   c) Preliminary Studies | Do not exceed 4 pages (including figures)
   d) Research Design and Methods | No page limit, but DO NOT EXCEED the 15 page limit* for items a-d of the total Research Plan
V. Bibliography/References Cited | No page limit

I. Title of Project
Choose a title that is specifically descriptive, rather than general. Avoid phrases like “Studies of” or “Characterization of”.

II. List of Scientific Abbreviations *(start new page!)*
Page numbers should begin on this page. To insert page numbers in a Word document, choose “Insert” – “Page Number”, and uncheck the box “Show number on first page”.

III. Description *(start new page!)*
State the proposal’s broad, long-term objectives and specific aims, making reference to the health relatedness of the project. Describe concisely the research design and methods for achieving stated goals. This description is meant to serve as a succinct and accurate description of the proposed work when separated from the application. DO NOT EXCEED 350 WORDS.
IV. Content of the Research Plan (start new page!)

Organize items a-d of the Research Plan to answer the following questions:

1) What do you intend to do?
2) Why is the work important?
3) What has been done already?
4) How are you going to do the work?

Note: Do NOT exceed 15 pages (including figures) for items a-d of the Research Plan.

a. Specific Aims:
State concisely the specific objectives (aims) of the proposed research. List the broad, long-term objectives and goals of the proposed research; what the research included in the proposal is intended to accomplish. State the hypotheses to be tested and summarize the expected outcome(s). This section should be no more than one page in length.

b. Background and Significance:
Briefly sketch the research background leading to the present proposal, critically evaluate existing knowledge, and specifically identify the gaps in knowledge that the project is intended to fill. State concisely the importance and health relevance of the research described in this proposal by relating the specific aims to the broad, long-term objectives. This section should be no more than 4 pages in length, including figures.

c. Preliminary Studies:
Use this section to describe your own preliminary studies pertinent to the proposal. Provide information that will help to establish your experience and competence to pursue the proposed project. This section should be no more than 4 pages in length, including figures.

d. Research Design and Methods:
Describe the research design and procedures to be used to accomplish the specific aims of the project. Include how the data will be collected, analyzed, and interpreted. Describe any new methodology and its advantage over existing methodologies. Discuss the potential difficulties and limitations of the proposed procedures and alternative approaches to achieve the specific aims.

V. Bibliography
Use standard in-text citations and bibliographic format. All references should contain a complete author list (up to the first ten authors, in the same sequence in which they appear in the publication) and full title, the article and journal title, book title, volume number, page numbers, and year of publication. Textbooks are not appropriate references, except for very general introductory material.
Written Proposal Submission & Approval Process

1) **Written Proposal Format Check:** At least 6 weeks prior to the exam, students submit the written proposal to the Biochemistry Graduate Studies Office for format approval. Proposals should be sent in electronic form (Word document) to the BGSO ([norfleet@duke.edu](mailto:norfleet@duke.edu)). Once the proposal format has been approved, the student will receive an email from the BGSO. The email will include a copy of the Prelim Exam Cover Sheet and Evaluation Form for the Written Proposal. Both of these documents should be included with the written proposal when it is distributed electronically to each member of the supervisory committee.

2) **Written Proposal Submission to Committee:** Upon approval of the written format from the BGSO and at least one month before their scheduled exam, students should distribute the written proposal, Prelim Exam Cover Sheet and Evaluation Form for the Written Proposal in electronic form to all members of the Preliminary Supervisory Committee. Hardcopies of the proposal can be made available to faculty upon request.

3) **Written Proposal Requests for Revisions & Approval:** Within one week of submission of the written proposal to the committee, each committee member should send any requests for revisions to the prelim supervisory committee Chair/ACM (see Cover Sheet sent by the student), who will then contact the student to make the requested changes. The student should then confer with the supervisory committee Chair/ACM regarding deadlines for revision and resubmission (if necessary) of the document. If revisions are required, they must be distributed to each member of the committee and the student should also submit a final hard copy (printed) of the prelim proposal, with any subsequent revisions, to the BGSO. After receiving the final prelim written proposal each member of the committee should complete the Evaluation Form for the Written Proposal (included with the initial submission of the proposal) and email a copy to the BGSO ([norfleet@duke.edu](mailto:norfleet@duke.edu)).

Oral Exam Presentation

After the committee has approved the proposal, the student will meet with the committee for an oral examination. The BGSO will give the required documents to the ACM prior to the exam (including the official Preliminary Examination Report and the student's academic information). During the first 30 minutes of the exam, the student presents a seminar primarily on the research project and results already obtained. This is followed by questions from the committee. The student's mentor will not be present during the second part of the exam, after the student's oral presentation. It should be emphasized that the range of questions in this oral exam is in the general area of biochemistry; they are usually related to, but are not restricted to, the student's proposal. At the end of the examination, the student will leave the room and the mentor will usually rejoin the committee for further consultation. The student is informed of the committee's decision and advice at the conclusion of the examination.

When all parts of the Preliminary Exam are completed, the chair of the committee submits the official signed Preliminary Examination Form, verifying the recommendation of the committee, to the BGSO. The DGSA will provide the signed exam form to the DGS for his/her signature and transmission to the Graduate School.

Preliminary Exam Evaluation: An electronic copy of the Preliminary Exam Evaluation will be sent to each committee member prior to the exam. After the exam is complete, each member returns the completed form via email to the BGSO within 48 hours. Any "Comments for the student..." included on the form will be distributed to the student and research advisor to jointly read and discuss.
Re-taking the Preliminary Exam

A student who fails the preliminary examination may apply, with consent of the full supervisory committee and the Dean of the Graduate School, for the privilege of a re-examination to be taken no earlier than 3 months after the first exam date. Successful completion of the second examination requires the affirmative vote of all committee members. Failure on the second examination will render a student ineligible to continue for the Ph.D. degree at Duke University.

Individual Development Plan (IDP)

Individual Development Plan (IDP) should be initiated and driven by the graduate student in preparation for the 3rd year SoM RCR-Career Development Session. 3rd year students will be directed to create an IDP in the spring of their 3rd year (no later than May 1st). We suggest that students use the AAAS online tool (http://myidp.sciencecareers.org/) to assess their areas of interest and use it to develop a plan (which is expected to change from time to time during their program). Once students have a draft plan or an outline of a plan, the student is expected to meeting with his/her research advisor (and at least once a year afterward) to discuss the developing plan. The student may also want to meet with their graduate dissertation committee members as well in reaching a full plan. Each year the plan is to be reviewed by the student in consultation with the research advisor to adjust the plan if needed. Along the way the student may also use any additional online or published tools that are available in the process of adjusting the plan. The IDP template from the Graduate Advisory Council and the template created by FASEB are detailed on the next several pages for additional options.

The objectives of IDPs are to encourage students to:

1) Reflect on their training and career goals
2) Self-assess their skills and competencies
3) Discuss their goals and competencies with their mentor
4) Develop short- and long-term training goals

The IDP should also include a meeting with an advisor/mentor (ie. your annual committee meeting). Please see the attached information regarding your most recent committee meeting. I have attached the question AVG’s & committee member comments included on the evaluation forms submitted for your most recent annual meeting held on 2/19/2015.

Additional sites with IDP information for students:
http://www.sciencemag.org/content/337/6099/1149.full
https://medschool.duke.edu/education/degree-programs-and-admissions/office-biomedical-graduate-education/professional-development

Graduate Student Individual Development Plan

(created by the Duke University Graduate Advisory Council)

Graduate students benefit from reflecting on their career aspirations, assessing their strengths and weaknesses, and formulating a plan to better prepare themselves for future training and the job market. The questions below offer a possible rubric for self-assessment and planning.
1) What are your career goals?

2) What are your strengths and weaknesses?
   - Ability to design and plan experiments to address questions and test models
   - Technical/bench skills
   - Ability to analyze data and interpret results
   - Ability to work independently
   - Ability to complete projects
   - Command of the literature in your field
   - Creativity and vision
   - Writing skills
   - Oral communication skills
   - Personnel management skills
   - Teaching skills

3) How can you hone your skills for the career option(s) you seek?

4) What are your specific 1-month goals, 6-month goals, and 1-year goals, in terms of experiments, learning analysis strategies, writing papers, writing grants, attending meetings, teaching, mentoring undergraduates, etc?

Students and PIs should use this document or a similar customized document or one of the longer IDP templates (such as the AAAS online tool (http://myidp.sciencecareers.org/)) as a springboard to discuss how to enhance training and preparation for the students’ careers of choice. This document may well evolve to reflect that discussion and will likely evolve over the years of graduate training.

**Individual Development Plans (IDPs) for Graduate Students**

*(created by FASEB)*

Individual Development Plans (IDPs) provide a planning process that identifies both professional development needs and career objectives. Furthermore, IDPs serve as a communication tool between individuals and their mentors. While IDPs have been incorporated into performance review processes in many organizations, they have been used much less frequently in the mentoring of graduate students and postdoctoral fellows. An IDP can be considered one component of a broader mentoring program that can be instituted by all types of research institutions.

**Goals:** Help individuals identify:

-- Long-term career options they wish to pursue and the necessary tools to meet these
-- Short-term needs for improving current performance

**Benefits:** Graduate students will have a process that assists in developing long-term goals. Identifying short-term goals will give them a clearer sense of expectations and help identify milestones along the way to achieving specific objectives. The IDP also provides a tool for communication between the graduate student and their faculty mentor.
Outline of IDP Process: The development, implementation, and revision of the IDP require a series of steps to be conducted by the graduate student and their mentor. These steps are an interactive effort, and so both the graduate student and the mentor should participate fully in the process.

**BASIC STEPS**

<table>
<thead>
<tr>
<th>Graduate student …</th>
<th>Mentor …</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Conduct a self-assessment</td>
<td>Become familiar with available opportunities</td>
</tr>
<tr>
<td>2) Survey opportunities with mentor</td>
<td>Discuss opportunities with graduate student</td>
</tr>
<tr>
<td>3) Write an IDP, share IDP with mentor &amp; revise</td>
<td>Review IDP and help revise</td>
</tr>
<tr>
<td>4) Implement the plan</td>
<td>Establish regular review of progress</td>
</tr>
<tr>
<td>5) Revise the IDP as needed</td>
<td>Help revise the IDP as needed</td>
</tr>
</tbody>
</table>

**Execution of the IDP Process**

… for Graduate Students

**Step 1. Conduct a Self-Assessment.**

- Assess your skills, strengths, and areas that need development. Formal assessment tools can be helpful. (Examples can be found in *Resources: Self Assessment* at the end of this document).
- Take a realistic look at your current abilities. This is a critical part of career planning. Ask your peers, mentors, family and friends what they see as your strengths and your development needs.
- Outline your long-term career objectives. (For useful information see *Resources: Career Opportunities* at the end of this document).

  Ask yourself:
  - What type of work would I like to be doing?
  - Where would I like to be in an institution or organization?
  - What is important to me in a career?

**Step 2. Survey Opportunities with Mentor.**

- Identify career opportunities and select from those that interest you.
- Identify developmental needs by comparing current skills and strengths with those needed for your career choice.
- Prioritize your developmental areas and discuss with your mentor how these should be addressed.

**Step 3. Write an IDP.**

The IDP maps out the general path you want to take and helps match skills and strengths to your career choices. It is a changing document, since needs and goals will almost certainly evolve over time as a graduate student. The aim is to build upon current strengths and skills by identifying areas for development and providing a way to address these. The specific objectives of a typical IDP are to:

- Effective dates for the duration of your graduate training.
- Identify specific skills and strengths that you need to develop (based on discussions with your mentor).
• Define the approaches to obtain the specific skills and strengths (e.g., courses, technical skills, teaching, supervision) together with anticipated time frames.
• Discuss your draft IDP with your mentor.
• Revise the IDP as appropriate.

Step 4. Implement Your Plan.
The plan is just the beginning of the career development process and serves as the road map. Now it’s time to take action!
• Put your plan into action.
• Revise and modify the plan as necessary. The plan is not cast in concrete; it will need to be modified as circumstances and goals change. The challenge of implementation is to remain flexible and open to change.
• Review the plan with your mentor regularly. Revise the plan on the basis of these discussions.

… for Mentors

Step 1. Become familiar with available opportunities.
By virtue of your experience, you should already have knowledge of some career opportunities, but you may want to familiarize yourself with other career opportunities and trends in job opportunities (refer to sources such as National Research Council reports and Science career reviews; see also Resources: Career Opportunities at the end of this document).

Step 2. Discuss opportunities with graduate student.
This needs to be a private, scheduled meeting distinct from regular research-specific meetings. There should be adequate time set aside for an open and honest discussion.

Step 3. Review IDP and help revise.
Provide honest feedback - both positive and negative - to help the graduate student set realistic goals. Agree on a development plan that will allow the graduate student to be productive in the laboratory and adequately prepared for their chosen career.

Step 4. Establish regular review of progress.
The mentor should meet at regular intervals with the graduate student to assess progress, expectations, and changing goals. On at least an annual basis, the mentor should conduct a performance review designed to analyze what has been accomplished and what needs to be done. A written review is most helpful in objectively documenting accomplishments.

Resources

Self Assessment

The Postdoc Experience
Academic Career Opportunities


Non-Academic Careers


THE FOURTH YEAR AND BEYOND

During the fourth year and subsequent years of graduate study in biochemistry, students are primarily responsible for conducting their research. Students are also expected to arrange a meeting with their Dissertation Committee on an annual basis, beginning in the fourth year of study. Please note the Faculty Expectation for the Completion of a Successful Ph.D. Degree on page 11.

<table>
<thead>
<tr>
<th>Important Dates for 4th + Year Biochemistry Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before May 13th</td>
</tr>
<tr>
<td>Student schedules and completes the Annual Progress Meeting with their Ph.D. Supervisory Committee. BGSO should be notified of meeting date.</td>
</tr>
<tr>
<td>At least 1 week prior to meeting:</td>
</tr>
<tr>
<td>Student submits 1-1 ½ page written summary to all committee members.</td>
</tr>
</tbody>
</table>

Annual Progress Meetings

Upon successful completion of the prelim exam, the student should arrange a meeting each subsequent year with the members of their Dissertation Committee (no later than May 13th). The Committee should use these meetings to note adequate progress, or to provide help and/or advice. The student should be prepared to present a summary of research accomplished and plans for the next year. Please submit a short written (1-1 ½ page) summary to each of your committee members at least one week prior to the meeting to facilitate the presentation. Annual progress reports for all PhD students in the second year and beyond of their degree programs are a requirement of the Graduate School.

Prior to the meeting, the student should obtain a copy of the Report of Annual Progress Meeting form from the BGSO. A copy of the Annual Meeting Evaluation Form will be sent to each committee member electronically by the BGSO. At the conclusion of the meeting, each committee member should sign the Report of Annual Progress Meeting form and complete the evaluation form. **ALL** completed forms should be returned to the BGSO. If the student would like a copy of the evaluation comments to discuss with their advisor, they should contact the BGSO.

Changes to the Supervisory Committee

**Check your supervisory committee listing in ACES** and make sure it matches the committee that will be present at your defense. If a student requires a change to their Prelim/Dissertation supervisory committee, the BGSO will need to be notified by e-mail at the earliest convenience. This e-mail should include an updated Committee Nomination Form which can be found on the Biochemistry [website](#). Before any request is sent, the student should consult with her/his mentor and the faculty member(s) they are planning to remove/add. **Please note:** The committee must consist of at least four members and include at least three graduate faculty members of the major department (ie. have a primary or secondary appointment in Biochemistry) and one graduate faculty member from outside the department (the minor area representative*).

*Outside Committee Member(s) Selection: The Graduate School now requires a justification for choosing the minor area representative (the outside member) you would like to serve on your committee. This question is included on the Supervisory Committee Nomination Form.*
The Dissertation Seminar and Defense

The dissertation is expected to be a mature and competent piece of writing, embodying the results of significant and original research. Please see the Biochemistry Guide to Graduation (beginning on page 40) for detailed requirements on writing and submitting your dissertation, along with all other important information for completing your defense (i.e. scheduling your final seminar/defense, degree deadlines, etc.).

<table>
<thead>
<tr>
<th>Important Dates for the Dissertation Seminar &amp; Defense</th>
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<tbody>
<tr>
<td><strong>Apply for Graduation/Submission of the Intention to receive degree</strong></td>
<td></td>
</tr>
<tr>
<td>May Graduation - January 25</td>
<td>Student must file an intention to receive degree on-line: <a href="http://aces.duke.edu/">http://aces.duke.edu/</a></td>
</tr>
<tr>
<td>September Graduation - June 15</td>
<td></td>
</tr>
<tr>
<td>December Graduation - October 15</td>
<td></td>
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</tbody>
</table>

<table>
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<tr>
<th>Initial Electronic Submission of the Dissertation Defense</th>
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<tbody>
<tr>
<td>May Graduation - TBD (mid-March)</td>
</tr>
<tr>
<td>September Graduation - July 13</td>
</tr>
<tr>
<td>December Graduation - November 9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Final Submission of the Dissertation Defense</th>
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</thead>
<tbody>
<tr>
<td><strong>Final day to hold the dissertation defense.</strong></td>
</tr>
<tr>
<td>May Graduation - TBD (early-April)</td>
</tr>
<tr>
<td>May Graduation - TBD (mid-April)</td>
</tr>
<tr>
<td>September Graduation - July 27</td>
</tr>
<tr>
<td>September Graduation - August 10</td>
</tr>
<tr>
<td>December Graduation - November 23</td>
</tr>
<tr>
<td>December Graduation - December 7</td>
</tr>
</tbody>
</table>

**Deadlines subject to change:** [https://gradschool.duke.edu/academics/preparing-graduate/graduation-deadlines](https://gradschool.duke.edu/academics/preparing-graduate/graduation-deadlines)

PDF of the deadlines: [https://gradschool.duke.edu/sites/default/files/documents/graduation_deadlines.pdf](https://gradschool.duke.edu/sites/default/files/documents/graduation_deadlines.pdf)

Scheduling your dissertation seminar & defense:

The Dissertation Seminar and the Oral Defense are generally given on the same day during consecutive time slots. The seminar, which is given first, is an hour-long presentation of the dissertation research that is open to all members of the department. To reserve space for your seminar and defense, please contact the BGSO (see page 9 for available rooms & contacts).

The final examination (oral defense) is required to be administered by ALL members of the supervisory committee and can be considered invalid unless all members of the defense committee are present for the exam. If a member of a student’s committee cannot make it to the exam, the student should inform the BGSO immediately so that arrangements for conference
call or substitution can be made. The final exam should never be held with a committee other than the one approved by the Graduate School. Please see the official Graduate School teleconference policy listed below.

*IMPORTANT: You must be registered during the term in which you take the preliminary exam. During the fall & spring terms, students will now be allowed to schedule a preliminary exam on a date when classes are not in session (fall break, spring break, etc.). In the summer term a preliminary exam may be scheduled only between the opening and closing dates of the summer session. To view the official Duke academic calendars, visit the following website: http://registrar.duke.edu/academic-calendar

Graduate School degree deadlines: https://gradschool.duke.edu/academics/preparing-graduate/graduation-deadlines

The Graduate School teleconference policy for the dissertation/thesis defense:

1. The majority of your committee must be present at the dissertation/thesis defense.

If you plan to have a committee member teleconference into the exam, it needs to be approved by the Graduate School’s Associate Dean, prior to the exam (john.klingensmith@duke.edu).

If a student receives prior authorization for a committee member to participate remotely in a final exam, the Graduate School will no longer require that this person have their original signature on the exam cards and/or title and abstract pages. In lieu of an original signature, the Graduate School will accept an emailed PDF letter on institutional letterhead indicating 1) the name of the examinee, 2) the date of the exam, 3) and the remote participant’s vote as to whether the person passed or failed the exam. In the event of a vote of failure, the person should indicate whether an opportunity to retake the exam is recommended. The remote participant should email a scanned copy to the DGSA as a PDF. The DGSA will then submit it to the Graduate School. Templates for the text to use can be provided to remote participants (see template text below).

Template text for remote participants: On your university letterhead, use the following statement(s), filling in the correct information by replacing the italicized words below:

Date:

This letter is to verify that I participated in student’s name preliminary/master’s thesis/dissertation examination, in its entirety, via communication medium, eg Skype. I vote that the student passed/failed the exam.

(In the event of failure, indicate whether you recommend the student be allowed to retake the examination.)

Sincerely,

Your signature
Your name
Your title
Your email address
BIOCHEMISTRY GUIDE TO GRADUATION

1. **Check your supervisory committee listing in ACES:**
   Make sure it matches the committee that will be present at your defense (which must contain at least four graduate faculty members). The BGSO will need to be notified by e-mail at the earliest convenience. This e-mail should include an updated Committee Nomination Form which can be found on the Biochemistry website.

2. **Apply for Graduation (Intention to receive degree):**
   When a student and his/her advisor have agreed that the student is ready to finish within a semester, the student will need to **Apply for Graduation** at least two weeks prior to your defense and no later than the initial submission deadline for your graduation term.
   - Log into the ACES Student Center (using your NetID & password): [http://aces.duke.edu/](http://aces.duke.edu/)
   - Click on the Services tab
   - Click on Apply for Graduation

   By Applying for Graduation, you inform the Graduate School that you are planning to graduate in a given semester. Using the link above, log into ACES and select “Apply for Graduation”. An “Apply for Graduation” form is filed for one semester and does not carry over to the next semester. Thus, if you file in the fall and do not defend, you must file a new form in the spring.

   **Please note the following deadlines to “Apply for Graduation”:**
   - May/Spring Graduation: **January 25**th
   - September/Summer Graduation: **June 15**th
   - December/Fall Graduation: **October 15**th

   *Deadlines are subject to change. Please refer to the Graduate School’s graduation deadlines at: [https://gradschool.duke.edu/academics/preparing-graduate/graduation-deadlines](https://gradschool.duke.edu/academics/preparing-graduate/graduation-deadlines).

3. **The written dissertation:**
   The Graduate School has very specific guidelines for the format of the written dissertation, and strongly recommends all students use the dissertation templates (available in MS Word or LaTeX) in order to reduce the chance of serious formatting problems that could delay graduation. The templates give very specific instructions for formatting, spacing, margins, format for citations, figures, and tables, as well as how to produce landscape pages.

   The dissertation templates (available in MS Word or LaTeX) can be found on the following website: [http://gradschool.duke.edu/academics/theses-and-dissertations](http://gradschool.duke.edu/academics/theses-and-dissertations)

4. **Dissertation Submission to the Supervisory Committee:**
   **One month** (but no less than 3 weeks) prior to your exam date, submit a complete copy of your dissertation to each committee member and make any required corrections.

5. **Initial Electronic Dissertation Submission:**
   The initial dissertation submission to UMI/ProQuest must take place at least two weeks prior to your defense, but no later than the initial submission deadline for each semester - see dates below. **Along with the initial submission, you should also submit an**
Please note the initial submission deadlines for each semester (no later than 5:00 pm EST):

- May/Spring Graduation: TBD (mid-March)
- September/Summer Graduation: July 13th
- December/Fall Graduation: November 9th

Submit your dissertation at http://dissertations2.umi.com/duke

The initial submission of your dissertation to UMI/ProQuest is for the purpose of checking the format. The information you provide at the initial submission will be forwarded first to the Graduate School Administrator for approval. Do not destroy original file from which you create the PDF, as you will need this version for revision purposes. You will have the opportunity to upload revisions of your thesis/dissertation after your defense. More information about Electronic Theses and Dissertations (ETDs) can be found at the following Graduate School site: http://gradschool.duke.edu/academics/theses-and-dissertations

Additional Information about Electronic Theses and Dissertations (ETDs):

- For submission procedures and guidelines, see the Graduate School ETD Guidelines: http://gradschool.duke.edu/academics/theses-and-dissertations/overview
- For MS Word or Adobe Acrobat help, call the OIT Help Desk at 919-684-2200.
- For technical help with pdf submission, contact support@dissertation.umi.com or visit http://gradschool.duke.edu/academics/theses-and-dissertations/etd-technical-help

ETD Copyright Information: When you submit your thesis/dissertation electronically, you will also permit Duke University to make it available online through DukeSpace at Duke Libraries. View the following links for additional information about ETD Availability and the Non-exclusive Distribution License and Dissertation Availability Agreement, including the options to request an embargo.

- Publishing Concerns: http://gradschool.duke.edu/academics/theses-and-dissertations/etd-publishing-concerns
- Other Resources and Guidelines: http://www.etdadmin.com/cgi-bin/main/resources

6. Advisor Letter & Official Defense Announcement:

No later than two weeks prior to your exam date, or at the time of the initial submission of your dissertation, request from your Advisor an Advisor Letter and from your Department DGSA an Official Defense Announcement. Both should be emailed to the Graduate School at gradacademics@duke.edu with the student name as part of the subject line. If you would like the DGSA to submit both documents on your behalf, please send the signed Advisor Letter to the DGSA (norfleet@duke.edu).

1) From the DGSA, request an Official Departmental Defense Announcement

Send an email to the DGSA (norfleet@duke.edu) with the following information for
submission of the Official Departmental Defense Announcement to the Graduate School:

- Date, time and place of dissertation seminar & defense
- Your name (as it appears on your dissertation title pages)
- Title of dissertation (including any special fonts/symbols)

2) From your Advisor, request an Advisor Letter stating that your dissertation is complete and acceptable for defense, to be emailed to the Graduate School (with the student name as part of the subject line). A template of a standard advisor letter can be found below.

**Advisor Letter Template:** Please feel free to use the template below for your Advisor Letter. Please individualize each letter and update the information indicated in blue. Department letterhead can be found in the BCH Administration Office in the Nanaline Duke Bldg.

```
Date

Graduate School Academics Office
Duke University Graduate School
2127 Campus Drive, Box 90065
Durham, NC  27708

To Whom it May Concern:

Re:  Mr./Ms. Student's Full Name (as it is listed on their Dissertation)

    I have read the dissertation of Student's Full Name and it is complete and ready to defend.

    Sincerely,

    Dr. Advisor Name
    Advisor/Dissertation Committee Chair
    Professor, Department of Biochemistry
```

7. **Exam Card Appointment** (Exam Card Pick-up):

After the initial submission of your dissertation to UMI/ProQuest and your Advisor Letter, & Official Announcement, the Graduate School staff will review your submission and e-mail you within 2 days about scheduling an exam card appointment with the person who checked your document. At this appointment you will receive your final examination card to take with you to your defense. Appointments are held at the Graduate School, located at 2127 Campus Drive.

Provided you have 1) filed an “Apply for Graduation” form in ACES for the term you are graduating, 2) submitted your dissertation, 3) submitted the Advisor Letter and Official Defense Announcement, and 4) have an approved dissertation committee, you will receive:

1. **Final Examination Certificate**, which your committee must sign at the conclusion of
your final exam indicating that you have successfully defended your word.

2. Graduate School’s computer-based Ph.D. Exit Survey

8. Dissertation Seminar Flyer:
At least **one week** prior to your defense, the DGSA will create a *Dissertation Seminar Flyer* and email it to all department faculty, graduate students and post-docs. The DGSA will also post flyers in the Nanaline Duke Bldg. If you would like copies to post at other campus locations, please notify the DGSA.

9. The Dissertation Defense:
Prior to your defense, a copy of the Dissertation Defense Evaluation form will be sent to each committee member from the DGSA. At the conclusion of your defense, ALL completed forms need to be returned to the DGSA by email. Any "Comments for the student…" included on the form will be distributed to the student and research advisor to jointly read and discuss.

**After completing your seminar & defense:**

1. Obtain the original signatures* of your committee on:
   - one (1) title signature page
   - one (1) abstract title signature page
   - the Final Exam Certificate

2. Obtain the signature of your Director of Graduate Studies on your Final Exam Certificate (exam card).

**Note:** If a student receives prior authorization for committee members to participate remotely in a dissertation exam, the Graduate School no longer requires that those members have their original signature on the exam card and/or title & abstract pages. See “Teleconference Policy” on page 39.

10. Final Submission:
Final submission of your signed Exam Card & revised dissertation must occur within **30 days** of your defense; however, if you defend within 30 days of the semester deadline of your graduation date, you must adhere to semester deadline, and do not have 30 days to complete your final submission. Semester deadlines are listed below.

1. **Submit revised PDF file to UMI/ProQuest:** The final version of your dissertation, taking into consideration the revisions required by the Graduate School and the revisions required by your committee. You will receive notification when the Graduate School has accepted your dissertation.

2. **Submit the following materials to the Graduate School after your defense:**
   - Signed Final Exam Certificate
   - One title signature page with original signatures.
   - One abstract title signature page with original signatures.
   - Completed “Survey of Earned Doctorates.”
   - Signed “Non-Exclusive Distribution License and Dissertation Availability Agreement”

**May/Spring Graduation**
TBD (early-April): Final day to hold the dissertation seminar/defense.
TBD (mid-April): Turn in Final Exam Card to Graduate School by 5:00 pm EST. Submit final version of dissertation to UMI/ProQuest by 3:00 pm EST.

**September/Summer Graduation**

- **Friday, July 27th:** Final day to hold the dissertation seminar/defense.
- **Friday, August 10th:** Turn in Final Exam Card to Graduate School by 5:00 pm EST. Submit final version of dissertation to UMI/ProQuest by 3:00 pm EST.

**December/Fall Graduation**

- **Monday, November 23rd:** Final day to hold the dissertation seminar/defense.
- **Monday, December 7th:** Turn in Final Exam Card to Graduate School by 5:00 pm EST. Submit final version of dissertation to UMI/ProQuest by 3:00 pm EST.

**Deadlines are subject to change:** [https://gradschool.duke.edu/academics/preparing-graduate/graduation-deadlines](https://gradschool.duke.edu/academics/preparing-graduate/graduation-deadlines)

**Note:** If, at the end of the semester/term, the student cannot meet the deadlines, the student will need to register for the ensuing term or semester in which the degree will be awarded and Apply for Graduation again for the new term.

**Additional Information for Graduates:**

**About bound copies of dissertations**

If you would like a personal copy, you can order copies through ProQuest or print out your dissertation and bring it to the Textbook Store in the Bryan Center for binding. Please note that image resolution will be higher on the self-printed copy brought to the Textbook Store than on the copy ordered through ProQuest. If your dissertation contains images and/or you require a higher quality copy, the Graduate School recommends the services of the Textbook Store.

**Commencement**

Graduation exercises are held once a year, in May, when degrees are conferred on and diplomas are issued to those students who have completed requirements by the end of the spring. Those who complete degree requirements by the end of the previous fall or the summer term receive diplomas dated December 30 or September 1, respectively. September and December graduates are invited to attend the May graduation ceremonies but must register online for the Ph.D. Hooding Ceremony. More information can be found at the following site: [http://gradschool.duke.edu/gsa/graduation/index.php](http://gradschool.duke.edu/gsa/graduation/index.php).

**Health Insurance Information for Graduates**

Students who complete their degree/graduate will have the option to continue their health insurance coverage for the remainder of the plan year at their own pro-rated expense. Otherwise, the Graduate School payment of the premium will continue through the last day of the month during which the graduation became effective (see more detailed info below). If a student chooses to maintain his/her Duke medical insurance coverage, the student will be charged for, and expected to pay, the balance of the plan term premium through his/her Bursar’s account. If the student wishes to terminate his/her Duke insurance plan, he/she must complete the Petition to Terminate Coverage form and submit it to the Student Health Insurance Manager in the Student Health Center.

**Spring (May) Graduates:** Students who graduate in the spring are eligible to continue their
health insurance coverage for the remainder of the plan year at the Graduate School’s expense (through July 31, 2016)*. No action is required on the part of the student to continue this coverage. However, students are strongly encouraged to make sure they secure alternative health insurance coverage by the end of the Duke SMIP year on July 31st. *This includes students who choose to defend earlier in the semester (i.e. Jan, Feb) for Spring graduation. They will continue to receive health insurance through the remainder of the plan year (July 31st), since their tuition remission & fees have already been paid in full for the entire semester.

**Summer (September) Graduates:** Since the Duke SMIP plan year ends on July 31st, whereas summer graduates are technically enrolled through the end of August, students graduating in the summer term may be without health insurance for their last month of study. Students are therefore given the option of extending their coverage for one month, through August 31st. If the Graduate School paid the student’s Duke SMIP premium for the prior year, the Graduate School will also cover the premium for the August extension. If the student was responsible for the prior year premium, and opts to extend coverage for the month of August, the student will be responsible for the additional premium payment.

**Fall (December) Graduates:** Students who graduate in the fall will have the option to continue their health insurance coverage for the remainder of the plan year at their own pro-rated expense. Graduate School payment of the premium will continue through December 31st. If a student chooses to maintain his/her Duke medical insurance coverage through the seven remaining months of the plan year (through July 31st), the student will be charged for, and expected to pay, the balance of the plan term premium through his/her Bursar’s account. If the student wishes to terminate his/her Duke insurance plan, he/she must complete the Petition to Terminate Coverage form and submit it to the Student Health Insurance Manager in the Student Health Center. **Please note that your policy will remain in effect unless you complete and submit the Petition to Terminate Coverage form!**

**Option to continue coverage:** Graduating students who have been covered by the Duke SMIP for at least the six months immediately prior to their graduation are eligible to extend their SMIP coverage for up to an additional six months after graduation, at their own pro-rated expense. You must apply for this coverage no later than 8/30/2015. No exceptions will be made for requests made after this date. Coverage will consist of the benefits selected by the school for the 2015/16 policy year, and may differ from current benefits. **The link to enroll and premium rates will be available in July of each year, and will be accessible from the following site:** [http://studentaffairs.duke.edu/studenthealth/health-insurance](http://studentaffairs.duke.edu/studenthealth/health-insurance)

Questions concerning enrollment and termination of the Duke Student Medical Insurance Plan should be directed to insurance@studentaffairs.duke.edu or 684-1481, in the Duke Student Health Center ([http://studentaffairs.duke.edu/studenthealth/health-insurance](http://studentaffairs.duke.edu/studenthealth/health-insurance)). You can contact the Duke Student Health Center directly at (919) 681-WELL.

**Dental Insurance:** Although dental services are not available through Duke Student Health Center, all students enrolled in the Student Health Insurance Plan are eligible for discounted dental visits through BASIX. Please see the website for participating practices: [http://www.basixstudent.com/duke/?agreed=1](http://www.basixstudent.com/duke/?agreed=1)

DentalBlue dental insurance is also available for purchase at the following site: [http://www.bcbsnc.com/content/plans/dentalblue/index.htm](http://www.bcbsnc.com/content/plans/dentalblue/index.htm)
DEGREE REQUIREMENTS FOR THE M.S. & M.A. DEGREES

Although it is by no means encouraged, students may, under certain circumstances, receive a terminal Master's degree if they choose to end their study before finishing their Ph.D. work. The biochemistry department awards two types of Master's degrees: A.M. (without a thesis) and M.S. (with a thesis).

Formal Graduate School Requirements:

1) A minimum of 30 units of credit registration, at least 24 of which must be graded.
2) Continuous registration.
3) A master's exam. In addition, many departments have further requirements, such as a thesis or other formal written exercise.

Course Requirements

Thirty units of graduate credit at Duke constitutes minimum enrollment for the Master of Arts and the Master of Science degrees. Students must present acceptable grades for a minimum of 24 units of graded course work, 12 of which must be in the major subject. A minimum of 6 units of the required 24 is normally in a minor subject or in a related field, which is approved by the student's major department. (Some programs will require more course work).

Completing the Apply to Graduate Process

When a student and his/her advisor have agreed that the student is ready to finish within a semester, the student will need to Apply for Graduation at least two weeks prior to your thesis defense and no later than the initial submission deadline for your graduation term.

• Log into the ACES Student Center (using your NetID & password): http://aces.duke.edu/
• Click on the Services tab
• Click on Apply for Graduation

By Applying for Graduation, you inform the Graduate School that you are planning to graduate in a given semester. Using the link above, log into ACES and select “Apply for Graduation”. An “Apply for Graduation” form is filed for one semester and does not carry over to the next semester. Thus, if you file in the fall and do not defend, you must file a new form in the spring.

Declaration of intention letter: The declaration of intention letter, which should be sent to the Graduate School, presents the title of the thesis or specifies alternative academic exercises on which the degree candidate will be examined. Alternative academic exercises can include written or oral exams on a prescribed reading list or body of material; oral exams on a paper or set of papers submitted by the student; or oral exam on a research project or memo. The doctoral preliminary examination may also serve as the final examination for the master's degree. You should inform the Graduate School which type of examination the department will use. The declaration must have the approval of both the director of graduate studies in the major department and the chair of the student's advisory committee.

Thesis Requirements

Individual departments decide whether the M.A./M.S. program may be completed by submission of an approved thesis or by other academic exercises. The thesis should demonstrate the student's ability to collect, arrange, interpret, and report pertinent material on a research
problem. The thesis must be written in an acceptable style and should exhibit the student's competence in scholarly procedures. Copies of the document should be distributed by the student, to all members of the examining committee at least one month prior to the exam date. Requirements of form are set forth by the Graduate School and can be found at the following website: https://gradschool.duke.edu/academics/theses-and-dissertations. The Guide for the Preparation of Theses and Dissertations can be downloaded at the Graduate School website: https://gradschool.duke.edu/sites/default/files/documents/ElectronicThesisDissGuide.pdf

*M.S. Only:* The thesis must be submitted in an approved form to the Graduate School at least two weeks before the scheduled date of the final examination or no later than the initial submission deadline for that semester. Submission deadlines can be found at the following website: https://gradschool.duke.edu/academics/preparing-graduate/graduation-deadlines

**The Examining Committee and the Examination**

The department's Director of Graduate Studies, with the student, recommends an examining committee normally composed of three members of the graduate faculty, one of whom is usually from a department other than the major department or from an approved minor area within the major department. Nominations for membership on this committee are submitted on the appropriate form for approval to the Dean of the Graduate School at least one week preceding the final exam. The committee will conduct the examination and certify the student's success or failure by signing the card provided by the Graduate School office (Amy Norfleet, 254 Nanaline Duke Bldg.). This card indicates completion of all requirements for the degree. *M.S. Only:* If a thesis is presented, the committee members also sign all copies of the thesis, and the candidate then returns the original and first two copies to 013 Perkins Library.
The Duke University Graduate School and the Biochemistry program offer a wide array of financial support. Funding is available from annually allocated awards funds, instruction, endowed fellowships, foundations and other private support, as well as federal research and training grants.

Financial support for continuing Ph.D. graduate students in the Department of Biochemistry is typically provided over a 12-month period. Financial support for the 2015-2016 Academic Year is as follows:

<table>
<thead>
<tr>
<th></th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stipend (12 months)</td>
<td>$29,860.00</td>
</tr>
<tr>
<td>Tuition (Yrs 1-3 only)</td>
<td>$41,010.00</td>
</tr>
<tr>
<td>Tuition Remission ($3,290/sem)</td>
<td>$9,870.00</td>
</tr>
<tr>
<td>Health &amp; Activity fees</td>
<td>$806.50</td>
</tr>
<tr>
<td><strong>Total (per year)</strong></td>
<td><strong>$81,646.50</strong></td>
</tr>
</tbody>
</table>

Tuition is charged on a per semester basis for all graduate students. Entering Ph.D. students are assessed a tuition amount of $20,505/semester (fall and spring only), as well as a tuition remission in the amount of $3,290/semester (fall, spring & summer) during academic years 1-3. For the 2015-2016 AY, a tuition award in the total amount of $50,880.00 will be paid directly to the Bursar’s Office on your behalf. After the first 3 years of study, tuition remission is charged for continuing Ph.D. students on a per semester basis. All tuition, tuition remission and fees will be paid at the beginning of each semester and charged directly to the institutional fund or grant that is supporting your funding.

**Recreation fee:** The recreation fee for students in their first 3 years of study will be paid by the Graduate School for use of the campus recreation facilities. Students beyond their 3rd year of study, who choose to use the campus recreation facilities during the academic year, must opt in to have this fee paid and continue their access to the recreation centers. All 3rd+ year students will receive an email with information on how to “opt in” at the beginning of each academic year. If you choose to “opt in”, your student account will be charged a recreation fee of $130 (2015-16 year) per six-month period (July 1–December 31 and January 1–June 30) and you will be financially responsible for paying this fee through your student account.

**Fellowship Stipend Payment Schedule:** During the first two years of study, students are typically supported by a Graduate School Fellowship award and stipend. Your fellowship stipend will be paid to you over 12 months, at a rate of $2,488.33/month. Fellowship stipends are paid through the non-compensatory pay system, are paid on the last working day of the month, typically beginning in September of each academic year.

**Research Assistantship Stipend Payment Schedule:** Beginning in the third year of study, financial awards will be supported directly by PI grants & funding. The research assistantship will be funded directly from your research advisor and be paid through the monthly faculty staff payroll in 12 equal monthly payments on the twenty-fifth day of each month.

Monthly payroll schedules can be found at the following website: [http://finance.duke.edu/payroll/schedules/index.php](http://finance.duke.edu/payroll/schedules/index.php)
Award letters will be sent to students, in August of each year, detailing new stipend and fee amounts.

Students have ultimate responsibility for ensuring that their tuition and fees are paid. Students should review statements received from the Bursar’s Office regularly and quickly resolve payment problems or issues that arise. Students with questions about their bursar accounts should contact the director of graduate studies assistant to the director of graduate studies in their department, the Bursar’s Office, or the Graduate School Office of Budgets and Finance.

Students must be enrolled in the Graduate School in order to receive fellowship or assistantship support. It is the practice of our department to work cooperatively with the Graduate School and School of Medicine to ensure that you will be financially supported at the annual level for six consecutive academic years, provided that you continue satisfactory progress in our graduate program.

It is the practice of our department to work cooperatively with the Graduate School and School of Medicine to ensure that you will be financially supported at this level until the completion of your degree, provided that you continue satisfactory progress in our graduate program. As a member of an outstanding graduate community, we also strongly encourage you to apply for other institutional and outside fellowships. Awards of the type add distinction to your graduate record and enhance our ability to support additional highly qualified students in graduate programs at Duke.

Under the Tax Reform Act of 1986, both fellowship & assistantship stipends are taxable:

By IRS rules, scholarships and fellowships are reportable as income with the exclusion of tuition, fees, books and equipment required for educational support. The university has no reporting or withholding requirements on fellowships; however, you may choose to have taxes withheld from your fellowship by completing a W4 form with the payroll office. We encourage you to read the IRS’ publication found at http://www.irs.gov/pub/irs-pdf/p970.pdf concerning Tax Benefits of Education and the taxation of scholarships and fellowships, or to consult with your tax advisor concerning this financial aid package, if necessary.

For U.S. citizens, fellowship stipends may be reduced, for tax purposes, by the amounts paid for tuition, fees, and required books, supplies, and equipment. For general information about the taxability of scholarships and fellowships, students should see IRS publication 970.

For international citizens, stipend payments are subject to withholding of federal and state income taxes, based on the existing tax treaty between the student’s country and the USA. In addition there is an IRS requirement that tuition payments for foreign students must be reported to the federal government. Please click the following link for more information on tax treaties. Each student’s tax situation is unique, and the Payroll Office at Duke provides assistance to enrolled students regarding withholding requirements.

Health insurance is required for all Duke students. If you choose to enroll in Duke’s student medical insurance plan (Duke SMIP), the Graduate School will cover the cost of your premium. Information on the Duke SMIP can be found on the Duke Student Health website: http://studentaffairs.duke.edu/studenthealth/health-insurance.

International students, those holding F-1 or J-1 visas, are required to enroll in the Duke SMIP. Domestic students may choose not to enroll in the Duke plan; however, those who do not enroll
must meet the waiver criteria and provide proof of comparable alternative insurance coverage. If you do meet the waiver criteria and choose to waive the Duke SMIP, the Graduate School will provide a $400 stipend supplement that will be included in your October paycheck.

At the beginning of the fall semester Duke students must provide proof of coverage by an adequate medical insurance policy or purchase the Duke-sponsored medical insurance plan. If you have a medical insurance plan based in the United States, it is important to review your policy to assure proper coverage. Always have your insurance card and prescription drug card with you when seeking health care to facilitate the filing of insurance claims.

*Leaves of absence, graduation, and terminations:* Students who terminate from the Ph.D. program, take a personal leave of absence, or complete their degree/graduate will have the option to continue their health insurance coverage for the remainder of the plan year at their own pro-rated expense. Otherwise the Graduate School payment of the premium will continue through the last day of the month during which the graduation became effective (see more detailed info below). If a student chooses to maintain his/her Duke medical insurance coverage, the student will be charged for, and expected to pay, the balance of the plan term premium through his/her Bursar’s account. If the student wishes to terminate his/her Duke insurance plan, he/she must complete the Petition to Terminate Coverage form and submit it to the Student Health Insurance Manager in the Student Health Center.

Questions concerning enrollment and termination of the Duke Student Medical Insurance Plan should be directed to insurance@studentaffairs.duke.edu or 684-1481, in the Duke Student Health Center (http://studentaffairs.duke.edu/studenthealth/health-insurance). You can contact the Duke Student Health Center directly at (919) 681-WELL.

**Dental Insurance:** Although dental services are not available through Duke Student Health Center, all students enrolled in the Student Health Insurance Plan are eligible for discounted dental visits through BASIX. Please see the website for participating practices: http://www.basixstudent.com/duke/?agreed=1. DentalBlue dental insurance is also available for purchase at the following site: http://www.bcbsnc.com/content/plans/dentalblue/index.htm

**Health Fee:** Ph.D. students in Biochemistry have their health fee and health insurance paid for by the University and/or their faculty advisor for their first 6 years in the doctoral program. The health fee is separate from comprehensive health insurance and covers most of the services at the Student Health Center (SHC), located in Hospital South, if medically indicated and rendered by a Student Health Provider.

**Other Funding Opportunities**

**Department of Biochemistry: Fellowship for Graduate Studies**

Any biochemistry graduate student, currently in good standing with the department, is eligible for a Biochemistry Fellowship for Graduate Studies. This award will consist of a fellowship, to cover the balance of stipend not covered by Graduate School or PI resources. This fellowship is offered to students to aid in the pursuit of their education. No work services are expected of them in return.

**Office of Research Support:**

In addition to those awards available through the department and university, applicants are urged to compete for national and foundation awards available for graduate study. Duke’s Office of Research Support lists awards available from a variety of federal and private sources, as well
as awards funded by the university. External awards typically replace departmental or Graduate School awards: https://ors.duke.edu/orsmanual/graduate-and-professional-student-funding

**Competitive Fellowships for Continuing Students**
The application process for 2015-2016 competitive fellowships for continuing students has closed. Fellowship awardees will be listed in late-March. Applications for 2016-17 will become available in mid-September. More information about the types of fellowships offered can be found at the following site: http://gradschool.duke.edu/financial-support/find-funding

**IMPORTANT:** Please notify your lab grant manager when you apply for any outside funding award/fellowship. You will also need to notify your grant manager the outcome of your application (if you have or have not received the award/fellowship).

**Conference Travel Awards & Fellowships**
**Graduate School – Conference Travel Fellowship:**
The Conference Travel Fellowship is available to any graduate student enrolled in a Ph.D. granting program or department, who has passed all parts of the preliminary exam and is actively participating in a conference (i.e., presenting a paper or poster, or leading a discussion). Students are limited to one conference travel fellowship per fiscal year (July 1 – June 30). If awarded, the fellowship will provide up to $525 for domestic and $700 for international travel and will include the cost of registration fees, primary travel, three nights of lodging, and meals for four days (up to $25/day). The application must be complete and submitted at least one month prior to the date of the conference and can be found at the following Graduate School website: http://gradschool.duke.edu/financial-support/find-funding/conference-travel

**Biochemistry Department – Kamin Travel Fellowship:**
Any biochemistry graduate student who is awarded a Graduate School Conference Travel Fellowship will be automatically eligible for an additional Kamin Fellowship for up to $400. As you know, the Graduate School Travel Fellowships cover up to $525 of the cost of travel to a conference. The additional Kamin Fellowship should cover most or all of any remaining expenses. Please submit a copy of your completed Graduate School Conference Travel Application and approval along with the Kamin Travel Application to the BGSO (Amy Norfleet) in room 251 Nanaline Duke. Please contact the BGSO for a copy of the application.

Note: Graduate students who are unable to obtain a Graduate School Travel Fellowship can apply for a Kamin Travel Fellowship by submitting this application to Amy Norfleet, but the award is not automatic. In this case, you should also include a brief letter of intent with relevant details of the trip and the reason(s) for not applying or receiving the Graduate School award.

**Duke@Work**
For those students that are paid on the 25th of each month, you will now have the option of accessing your pay statements through the on-line Duke@Work system (http://work.duke.edu).

You can also use Duke@Work to do any of the following:
- View current and past pay statements.
- Change your home address.
- Update your work address (physical location).
- Set-up or change bank accounts for direct deposit.
- Change Federal and North Carolina tax withholding amounts (if required).
Please note: The Duke Payroll system and the STORM/ACES system are NOT connected. Any change in information submitted in one system will not automatically change the same information in the other. If you make a home address change in Duke@Work, you will need to make the same change in ACES.

Duke Corporate Payroll

Stipend payments for graduate students are distributed from the Duke Corporate Payroll office. Corporate Payroll Services operates a customer service center which provides the following services: issuing payments for salaries and corresponding benefits, as well as voluntary and involuntary deductions; fellowship and scholarship payments to Duke students; distributing annual tax forms, IRS Forms W-2, 1042S and 1099 forms; providing wage verification requests for mortgage companies or governmental agencies; and offering training for departmental payroll representatives, human resources managers, and business managers. Corporate Payroll can be contacted by phone at 919-684-2642 or by email payroll@duke.edu.

GRADUATE STUDENT VACATION POLICY

The vacation policy was implemented to ensure that all Ph.D. Research Assistants (years 3+) are allowed a minimum amount of paid time off each year, and to outline the process for requesting such time away. This policy applies only to Ph.D. RAs since their research work does not necessarily correspond to the Academic Calendar. It is expected that Teaching and Graduate Assistants (years 1 & 2), and Duke funded fellows, will have ample vacation time during periods when classes are not in session.

I. Graduate students who are funded by research projects on a twelve-month stipend schedule are allowed a minimum two weeks (ten working days) of vacation each year. Students who wish to take vacation must apprise their advisor of their intentions at least two weeks before the planned absence.

II. Students wishing to take additional periods of time off, paid or unpaid, must receive the approval of their advisor. If payroll changes are necessary, the advisor will notify the department or program business office prior to the payroll deadline for the affected pay period of any such arrangements. Approval for additional periods of paid time off may be subject to funding agency restrictions.

III. University observed holidays and time away for professional activities (conferences, workshops, interviews, for instance) do not count against vacation. Ph.D. Research Assistant holidays will follow the Holiday Schedule for University Staff, which can be found at: http://hr/benefits/time_away/university/holidays/index.php - university. Note also that the Graduate School policy on religious holidays corresponds broadly to that of Trinity College: students who wish to observe religious holidays must inform their advisor in advance, must plan to make up any missed work, and cannot be required to take the religious holiday as a vacation day.

IV. Unclaimed vacation cannot be carried over to a subsequent year nor will any unclaimed vacations days be paid out if not used by the year-end or upon termination of the research position. The annual cycle for determining available vacation will be September 1 to August 30 of the following year.
GRADUATE STUDENT RESOURCES @ DUKE
(Offices commonly used by Graduate Students)

The Graduate School
The overall mission of the Graduate School is to provide a research-based graduate training that will help you learn the analytical skills that will enable you to be future leaders in a wide variety of professions. Although many of our graduates enter academia, the education you will obtain here is intended to be applicable to any job that involves the discovery, creative application, and teaching of new knowledge. The Graduate School exists in large measure to support the research and educational missions of a faculty interested in the frontiers of knowledge, and, in so doing, to advocate for the primacy of scholarship throughout the University.

Graduate School Offices: 2127 Campus Drive, Box 90065
Durham, NC 27708

Web: http://gradschool.duke.edu
Contact: http://gradschool.duke.edu/contact

Office of the Dean
Dean’s Message: Duke is an energetic and vibrant university at the forefront of graduate education. The Graduate School is central to the academic mission of the university, and our graduate faculty research is on the cutting-edge of knowledge in the various disciplines and programs represented in the school.

To come to Duke University for graduate study is to be immersed in the welcoming environment of an educational community dedicated to the pursuit and production of knowledge that will serve the broader society. At The Graduate School, we are committed to the success of our students, and we serve as an advocate for their intellectual development. We believe that the analytic and research skills formed and honed during graduate study are critical for success in a variety of professional contexts. We are committed to helping students think about and begin to shape their professional career trajectories from the moment they begin their graduate student careers at Duke.

We also know, however, that student success encompasses aspects of their lives beyond their academic work, and we believe that graduate study should be viewed as part of a well-rounded life experience. As such, we offer many programs to help support and enrich the lives of graduate students during their years at Duke.

Graduate study is, in many ways, an apprenticeship. To earn the right to become a colleague of your professors takes time, patience, a fierce commitment, and the willingness to make many personal sacrifices. The path ahead might seem daunting, but at the Duke University Graduate School, among your fellow graduate students, and within the broader community of Durham, you will find the people, commitment, support, and resources to help you succeed and enjoy the journey.

Dr. Paula D. McClain
Dean of the Graduate School & Vice Provost
Senior administrator in the Graduate School. Responsible for all policies and procedures in the Graduate Programs.
Tel: (919) 681-1560

Graduate School Organization Chart:
Graduate Student Affairs
The central mission of the Office of Graduate Student Affairs (GSA) is to enhance the quality of graduate student life by working closely with individual students, student organizations, faculty, and other campus offices. The aim is to provide a broad array of programs on issues related to graduate student life, such as health, safety, housing, mentoring, and professional development. GSA also has a particular role in establishing support services that address the specific needs of students from different ethnic backgrounds, international students, gay and lesbian students, students with disabilities, women, and other groups. This office is committed to helping students become active participants in the Duke University community. You can consult us by telephone at 684-2056. Goals of the Student Affairs Office:

• To assess the academic, financial, social, personal, and cultural needs of graduate students
• To develop programs that encourage faculty and student participation in student affairs
• To assist departments in creating supportive environments for students
• Support departments in identifying & recruiting applicants from traditionally underrepresented groups

Web: http://gradschool.duke.edu/student-life
Contact Email: grad-gsa@duke.edu

Office of Academic Affairs
The Office of Academic Affairs in the Graduate School has primary responsibility for academic and program administration, including the following:

• to define and interpret all academic policies, procedures, and regulations of the Graduate School, particularly those involving time limitations, forming examination/advisory committees, and all disciplinary matters;
• to establish criteria for any new academic degree or certificate programs with the Executive Committee of the Graduate Faculty (ECGF);
• to coordinate all internal and external program reviews in order to ensure academic quality and maintain accreditation;
• to provide training in Responsible Conduct of Research (RCR) for all doctoral students;
• to offer courses, workshops, and programs in Teaching and Technology through collaborations with the Center for Instructional Technology;
• to manage the English for International Students (EIS) program;
• to provide general academic advising for students who seek help from someone outside their degree program;
• to participate in national initiatives and/or research projects in order to identify 'best practices' in graduate education.

Web: http://gradschool.duke.edu/academics/programs.php
Graduate School Student Handbook: http://gradschool.duke.edu/node/538
Graduate School Academic Policies and Forms: https://gradschool.duke.edu/academics/academic-policies
Childcare Subsidies: https://gradschool.duke.edu/financial-support/child-care-subsidy

Dr. John Klingensmith
Associate Dean for Academic Affairs
Responsible for administration of the academic regulations of the Graduate School, particularly those involving time limitations, forming examination/advisory committees, and all disciplinary matters. He also serves as general academic advisor for students who feel the need to talk to someone outside their own graduate degree programs.

Tel: (919) 681-1559 or john.klingensmith@duke.edu
Office Hours: Monday – Thursday, 1:00PM – 5:00PM

Office of Finance & Administration
The Office of Finance & Administration is responsible for all aspects of Graduate School financial management, admissions, student record keeping, degree requirement auditing, and other administrative functions such as human resource management, payroll, and facilities management.

Web: http://gradschool.duke.edu/financial_support/index.php

Cynthia Robertson
Associate Dean for Finance and Administration
Develops, implements and communicates all Graduate School financial operations; responsible for student record maintenance and enrollment reporting; serves as liaison between University departments and external entities regarding financial and administrative policies and procedures.

Tel: (919) 681-3249 or cynthia.robertson@duke.edu

Office of Budgets & Finance
The Office of Budgets & Finance oversees the payments of all institutional fellowship awards to graduate students, as well as payments from federal financial aid programs and national fellowships. This office strives to help students obtain their education with as little financial stress as possible while adhering to the guidelines and policies set forth by the University, government agencies, and funding institutions. The office operates with an open-door policy and places a high value on customer service to our students.

Web: http://gradschool.duke.edu/financial-support
Contact Email: grad-finaid@duke.edu

Iryna Merenbloom, Director, Budgets and Finance
Directs financial operations; oversees development and implementation of financial policies, processes and technologies; manages daily operation and staff supervision; prepares and monitors administrative and financial aid budgets and expenditures.

Tel: (919) 684-1555 or iryna.merenbloom@duke.edu

Lisa Roop-Wioskowski, Financial Aid Coordinator
Manages all aspects of Graduate Financial Aid, particularly relating to federal programs and regulations. Determines eligibility and processes student loans, including emergency loans. Contact person for national fellowships (NSF, Howard Hughes, etc.). Maintains updated information on federal tax law and student aid.

Tel: (919) 681-3247 or lisa.roop-wioskowski@duke.edu

Office of Admissions
The Graduate School Office of Admissions develops the policies and procedures by which applications to all graduate departments are processed. This office communicates with applicants regarding requirements, application status, and final admissions decisions and also
handles issues related to the preparation of visa documents for incoming international students.

**Web:** [http://gradschool.duke.edu/admissions](http://gradschool.duke.edu/admissions)

**Contact Email:** grad-admissions-center@duke.edu

**Contact Form:** [http://gradschool.duke.edu/contact-admissions-form](http://gradschool.duke.edu/contact-admissions-form)

**Elizabeth Hutton**  
*Director, Graduate Admissions*

Manages daily operations of the Admissions Office, including workflow, staff supervision and implementation of new technology to the admissions process; responsible for set-up, monitoring and data integrity of automated systems; assists with upgrades, hires and trains additional seasonal staff, and provides ongoing admissions analysis and reports.

Tel: (919) 684-3913 or elizabeth.hutton@duke.edu

**Yvonne Restani, Admissions Specialist**

Manages image capturing process; performs thesis and dissertation format checks; serves as admissions liaison with graduate departments in business administration, basic medical sciences, economics, and various others; assists incoming international students with Visa processing.

Tel: (919) 684-3913 or yvonne.restani@duke.edu

**Stacy Torian, Communications Specialist**

Develops and edits admissions communications related to the application process; communicates final admissions decisions to applicants; matriculates admitted students; performs thesis and dissertation format checks.

Tel: (919) 684-5737 or stacy.torian@duke.edu

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**Office of the University Registrar**

The Duke University Office of the University Registrar’s mission is to facilitate the educational process by assisting students, faculty, and staff by providing:

- a welcoming and encouraging service environment, in person and via other modes of contact;
- accurate and timely processing of data related to course offerings, registration and academic records;
- support and advice regarding academic policies and procedures;
- data to a variety of constituents, in support of the academic decision making process;
- security and privacy for the university’s academic records, including advice and training for faculty and staff on privacy issues;
- leadership in the areas of technological development as related to student administrative services and systems.

The Office of the University Registrar supports the overall educational goals of the university by providing these critical components in the academic support structure. We act as a "behind the scenes" facilitator for faculty, students, and staff as they pursue the academic goals of the university.

**Web:** [http://www.registrar.duke.edu/](http://www.registrar.duke.edu/)

**Location:** 114 S. Buchanan Blvd., Smith Warehouse, Bay 9, 2nd Floor, Room A289

**Map:** [http://map.duke.edu/?x=530&y=-351&z=2&w=1030&h=600&new.x=903&new.y=362](http://map.duke.edu/?x=530&y=-351&z=2&w=1030&h=600&new.x=903&new.y=362)

**Contact:** (919) 684-2813 or registrar@duke.edu
**Bursar’s Office**

The Bursar’s Office serves the student community by assisting students with their bursar accounts and by functioning as a depository for the University’s departments. The Bursar’s Office mails statements to students on a regular basis, manages the collection of the student receivables, and records departmental deposits.

**Web:** [http://finance.duke.edu/bursar/](http://finance.duke.edu/bursar/)

**Location:** American Tobacco Campus, Washington Bldg, Suite 1000, 324 Blackwell Street
Box Number 104145, Durham, NC 27708

**Contact:** (919) 684-3531 or [bursar@duke.edu](mailto:bursar@duke.edu) (Office Hours: 8am-5pm, Mon-Fri.)

**Map of the American Tobacco Campus:** [http://finance.duke.edu/resources/contacts/ATCCampusMap.pdf](http://finance.duke.edu/resources/contacts/ATCCampusMap.pdf)

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**Graduate and Professional Student Council (GPSC)**

The Graduate and Professional Student Council of Duke University (GPSC – pronounced ‘gypsy’) is the umbrella student government organization for Duke’s nine graduate and professional schools.

**Location:** 101-3 Bryan Center

**GPSC website:** [http://gpsc.duke.edu](http://gpsc.duke.edu)

Our purpose is to:

- represent and advocate on behalf of graduate and professional students at Duke University;
- serve as a liaison among the student governments of the graduate & professional schools;
- serve as a liaison between graduate & professional students and the University Administration;
- nominate graduate and professional student representatives to University committees;
- program events of interest to the graduate and professional student community;
- and financially support the programming of graduate and professional student groups.

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**The Duke Student Survival Guide** is a resource launched by GPSC in the spring 2014 term. It is a wiki that any Duke student may log into to both post and access useful information about life at Duke and in Durham. It currently has information about topics ranging from parking on campus to coffee shops around town and everything in between. To access the site, go to [tinyurl.com/DukeSurvivalGuide](http://tinyurl.com/DukeSurvivalGuide) and log in with your Duke NetID and password.

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**Office of Biomedical Graduate Education**

The Office of Biomedical Graduate Education in the Duke School of Medicine coordinates activities that are not specific to individual programs but impact all graduate students in the School of Medicine. These activities include the [Responsible Conduct of Research retreat](http://finance.duke.edu/resources/contacts/ATCCampusMap.pdf) held at the Beaufort Marine Laboratory each fall for new students and the [Chancellor’s Scholars Program](http://gpsc.duke.edu), which is funded by the Chancellor for Health Affairs and awards fellowships to outstanding international and domestic students. It also serves to implement and regularize policies within the biomedical graduate programs and is the administrative home for the Office of Biomedical Graduate Diversity. The office is also the administrative home for several of the interdisciplinary programs.
The Office of Biomedical Graduate Education is directed by the Associate Dean for Biomedical Graduate Education, Dona Chikaraishi, Ph.D. (dona.chikaraishi@duke.edu), under the auspices of the Vice Dean for Basic Research, Sally Kornbluth, Ph.D.

Biomedical graduate education encompasses eleven programs that confer a PhD degree. Seven reside in the School of Medicine and include Biochemistry, Cell Biology, Immunology, Molecular Genetics and Microbiology, Neurobiology, Pathology, and Pharmacology & Cancer Biology. Four (Computational Biology and Bioinformatics, Medical Physics, Molecular Cancer Biology, and the University Program in Genetics and Genomics) are interdisciplinary programs that have a substantial component in the School of Medicine but whose students also work with mentors in the Trinity College of Arts & Sciences, the Pratt School of Engineering and Nicholas School of the Environment. In addition to the PhD-granting programs, there are five “admitting programs” which matriculate students and provide interdisciplinary course work but whose students affiliate with a PhD granting program after the first year or two. These admitting programs include Cell and Molecular Biology, Cognitive Neuroscience, Developmental & Stem Cell Biology, Integrated Toxicology & Environmental Health, and Structural Biology & Biophysics. Admission to all PhD programs is through the Duke Graduate School.

Website: http://medschool.duke.edu/phd-programs

Dr. Dona Chikaraishi, PhD  
Associate Dean for Biomedical Graduate Education  
427 Bryan Research Building  
E-mail: dona.chikaraishi@duke.edu  
Phone: (919) 681-4269

Dr. Raphael Valdivia, PhD  
Vice Dean for Basic Science  
271 Jones Building  
E-mail: raphael.valdivia@duke.edu  
Phone: (919) 668-3831

Dr. Christopher Nicchitta, PhD  
Associate Dean for Research Training  
436 Nanaline Duke Building  
E-mail: christopher.nicchitta@duke.edu  
Phone: (919) 684-8948

Duke Student Affairs

The mission of Duke Student Affairs is to inspire students to make meaning in their lives through community engagement, experiential learning, and reflection.

The Division of Student Affairs is critically engaged in all aspects of students’ lives and collaborates with students, faculty, staff, alumni, parents, and many others in the delivery of key services and support to students and all whom the Division serves.

Student Affairs provides programs and services that support the optimal growth of Duke students, enhance their intellectual, social, cultural and physical development, and complement Duke’s academic excellence by providing opportunities for students to experience education and explore interests beyond the classroom. The Student Affairs strategic planning document was announced in February 2013. The plan’s goals and objectives are intended to be implemented within two years. Keep track of our progress with the latest updates and announcements posted to the strategic planning site.

Website: http://www.studentaffairs.duke.edu/
Duke Student Health

Student Health Services (SHS) at Duke University is jointly supported by the Division of Student Affairs and the Department of Pediatrics. The Duke Student Health Center is the primary source for a wide range of healthcare services, many of which are covered by the Student Health Fee. The Duke Student Health Center’s mission is to provide a compassionate, non-judgmental environment that allows for comprehensive, first-class health care and patient education in a manner that is respectful of diversity.

Medical Services are provided by board-certified faculty physicians, physician assistants, nurse practitioners, and resident physicians under faculty supervision. Students are encouraged to use our center as their medical home and to access other health resources as needed, including the specialty clinics at Duke University Medical Center. This will help with coordinating and providing cost-effective healthcare.

Web: [http://www.studentaffairs.duke.edu/studenthealth](http://www.studentaffairs.duke.edu/studenthealth)

Location: The SHC is located on Flowers Drive in the Duke Clinic complex (Duke South, Sub-Basement, Orange Zone).

To make an appointment, please call 919-681-WELL (9355).

PLEASE NOTE: The Duke Student Health Center is NOT a Walk-In Clinic and we prioritize students with scheduled appointments. If you have an urgent medical concern and need to be seen the same day, please call our triage line at (919) 681-9355, Option #2.

The health fee covers most of the services at the Duke Student Health Center (SHC), located in Hospital South, if medically indicated and rendered by a Student Health Provider:

- Medical Care for acute and chronic illness and minor injuries
- Physical examinations
- Routine medical care
- Gynecological Exam (does not include cost of associated lab tests, such as pap smear and STI screening)
- In-house lab tests
- Allergy shot administration
- Pregnancy Testing
- Nutrition Counseling (SHC, SHC East, and Wilson Recreation Center)
- Health Promotion Programs (Dorms and other campus locations)
- Physical Therapy Consultation & Sports Medicine Consultation (SHC)
- Counseling and Psychological Services (CAPS)
- Sexual Assault Support Services (Women’s Center)

Health Information for New Students: [http://studentaffairs.duke.edu/studenthealth/new-students](http://studentaffairs.duke.edu/studenthealth/new-students)

Parking @ Duke

Most Graduate and Professional students commute from off campus to Duke. Parking is provided to graduate and professional students in mid- to low-priced commuter lots throughout campus ([http://www.parking.duke.edu/parking/zones_lots/full_listing.php#proximate](http://www.parking.duke.edu/parking/zones_lots/full_listing.php#proximate)). Please
visit the Duke University Parking and Transportation Services website for information on how to acquire a permit for on-campus parking: http://www.parking.duke.edu/. Parking permit fees are charged to each student’s Bursar account for payment.

Contact: 919-684-PARK (7275) or tranpark@duke.edu

**Location 1:** Room 04230 Duke Clinics (adjacent to Medical Center Bookstore)
   - Office Hours: Monday-Friday, 7:30 a.m. – 3:00 p.m.

**Location 2:** 210 Campus Drive
   - Office Hours: Monday-Friday, 10:00 a.m. – 3:00 p.m.

For information about Durham bus stops and routes that serve apartment communities, go to Duke Parking & Transportation: http://parking.duke.edu/buses_vans/bus_sched/index.php

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**Individuals with Disabilities**
The Duke Biochemistry Department is committed to providing reasonable accommodations for qualified individuals with disabilities in compliance with Section 504 of the Federal Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990 and the ADA Amendments Act of 2008, as well as applicable state regulation and federal and state privacy laws.

**Student Disability Access Office:** Our goal is to provide and coordinate accommodations, support services and programs that enable students with disabilities to have equal access to all Duke University programs and activities. Services and accommodations are provided to students with a variety of disabilities including Asperger's Disorders, Attention Deficit Hyperactivity Disorders, blindness/low vision, deafness/hard of hearing, learning disabilities, mobility and chronic health, psychological disorders and other impairments.

If you believe you may need and qualify for reasonable accommodations, please visit Duke’s Disability Management System at http://www.access.duke.edu/students/index.php for detailed information and procedures.

**Counseling & Psychological Services (CAPS):** https://studentaffairs.duke.edu/caps
Counseling and Psychological Services (CAPS) helps Duke students enhance strengths and develop abilities to successfully live, grow, and learn in their personal and academic lives. We offer many services to Duke undergraduate, graduate, and professional students, including brief individual counseling/psychotherapy, consultation, couples and group counseling, assistance with referrals, and more. CAPS staff also provide outreach education programs to student groups, particularly programs supportive of at-risk populations, on a wide range of issues impacting them in various aspects of campus life.

**Duke University Graduate School on Facebook**
The Graduate School's goal is to educate the next generation of teachers, scholars, researchers and professional leaders and to develop the fields of knowledge and research within which these leaders will work.
Resources for International Students

**International House** (<http://ihouse.studentaffairs.duke.edu/>)
Our mission is to provide educational services and advocacy to the international population at Duke as well as outreach to the Durham community. We offer extensive cross-cultural programming and information to enhance the global mission of the university.

- To assist internationals and their families with orientation and acclimation,
- To enhance cross-cultural interaction through programming & community outreach,
- To provide advocacy and support for the Duke International Community

**Location:** 2022 Campus Dr., Box 90417, Durham, NC 27708
**Phone:** (919) 684-3585
**Office Hours:** Monday–Friday, 8:30 a.m.–5:00 p.m.

**Visa Services Office** (<http://www.visaservices.duke.edu/index.html>)
The Duke Visa Services office serves as a nexus for monitoring and shaping legislation, regulations, and policies at the federal, state and local levels that affect international educational exchange, and for interpreting and applying those directives and controls in the Duke environment in support of the teaching, research, patient care, and community service goals of the university, medical center, health system and affiliated institutions.

Department liaisons work primarily with international students, staff and faculty for university, medical center, health system and affiliated institutions. Visa Services liaison for the Department of Biochemistry: **Pamela Billie** (<pamela.billie@duke.edu>)

**Location:** 114 South Buchanan Boulevard
Smith Warehouse: Bay 7-1st Floor, Durham, NC 27708
**Phone:** (919) 681 – 8472
**Office Hours:** Monday - Friday, 8:00 am - 5:00 pm, and by appointment.

**English For International Students (EIS)**
Provides resources to help students succeed in their academic programs; build a community that actively seeks the intellectual and cultural contributions of international students and scholars; help those students and scholars be fully-participating members of the academic community and become global ambassadors for Duke.

The primary mission of EIS is to contribute to Duke’s commitment to internationalization by supporting the academic life of international students. Every year, over 200 international students from many different departments and countries take EIS courses. EIS offers courses in both oral communication and academic writing for international students enrolled in graduate degree programs at Duke.

**EIS Placement Exams:** All international graduate students whose native language is not English are required to take writing and oral/speaking exams through the English for International Students (EIS) program. This is a REQUIREMENT of the Graduate School and the Department. The Graduate School's policy is for students to take any required English courses early in their academic careers for maximum benefit. For more information, please visit [http://www.duke.edu/web/eis](http://www.duke.edu/web/eis)
Writing Studio
Students can make appointments for both face-to-face and e-tutoring appointments. Several of the tutors have ESL experience and all tutors have had some training in working with international students. Students may request a specific tutor if they wish and can make multiple appointments. [http://uwp.duke.edu/writing-studio](http://uwp.duke.edu/writing-studio)

Oral Skills Coaching
Students may make appointments with an experienced ESL speaking coach to develop and rehearse any type of oral presentation, practice discussing their field and research, or practice specific speaking skills. [http://www.duke.edu/web/eis/services/OralSkillsCoaching08Rev.pdf](http://www.duke.edu/web/eis/services/OralSkillsCoaching08Rev.pdf)

Contact: 919-681-8125 or [www.duke.edu/web/eis](http://www.duke.edu/web/eis)

Applying for a SSN or ITIN
Applying for a Social Security Number (SSN#) or Individual Tax Identification Number (ITIN#): International graduate students at Duke, who are offered a Graduate Awards fellowship, a stipend for which this is no specific work obligation such as teaching or research, are eligible to apply for a Individual Tax Identification Number (ITIN).

When a student begins their third year of study and is hired as a Research Assistant, supported by their PI funds, they can apply for a Social Security number. This should be done at the first opportunity, after they have been formally hired as a Research Assistant.

*When a student has received their ITIN# or SSN card, please bring it to Amy Norfleet, in the Biochemistry Graduate Studies Office. She will need to make a copy for your payroll files and send a copy to the Corporate Payroll office.*

Transportation to Social Security Office: As most new international students do not have automobiles, Duke University’s International House provides transportation to the Social Security Office at 3004 Tower Blvd., Durham, NC 27707. The shuttle to the SS office departs at 10am each Wednesday from the International House on Duke’s West Campus, at the corner of Anderson and Campus Drive.

University Career and Professional Development Resources

**Professional Development Series:** This event series includes individual workshops and talks as well as groupings of presentations on closely related topics that can help students evaluate and prepare for the range of professional doors that their graduate degrees will open for employment. This series is designed to broaden graduate students’ career perspectives and develop competencies in communication, self-awareness, professional adaptability, and leadership. Events in the Professional Development Series are offered on a two-year planning cycle and change each semester. Over the course of each two-year cycle, the Series will include opportunities to learn about career paths in each of the five major career sectors available to master's and doctoral degree graduates: academia, business, entrepreneurship, government, and nonprofit. Questions or suggestions? Contact [Dr. Melissa Bostrom](mailto:mbostrom@duke.edu), Assistant Dean for Graduate Student Professional Development. Additional information can also be found on the Graduate School Professional Development site: [http://gradschool.duke.edu/professional-development](http://gradschool.duke.edu/professional-development)

Programs
Certificate in College Teaching (CCT): This approximately one-year-long program prepares PhD students to teach and provides formal documentation upon completion of the program, which helps make the students more competitive when applying for faculty positions. More information can also be found on page 25 of this handbook.

Emerging Leader Institute: This program—open to students at The Graduate School and postdocs—helps participants develop their skills in communication, self-awareness, professional adaptability, interdisciplinary teamwork, and leadership.

Preparing Future Faculty: This yearlong program provides graduate students and postdocs with workshops and mentors to prepare them for the multiple roles they may have to play as faculty members at a variety of academic institutions.

Bass Instructional Fellowship Program: This program provides endowed fellowships for graduate students to gain high-quality teaching experience as instructors of record, instructional teaching assistants, and online apprentices.

To see a chronological list of the Professional Development Series workshops and events, visit the Graduate School's professional development events calendar. More opportunities are added throughout the semester!

The Graduate School Scientific Writing Resource: The Scientific Writing Resource is online course material that teaches how to write effectively. The material is not about correctness (grammar, punctuation, etc), but about communicating what you intend to the reader. It can be used either in a science class or by individuals. It is intended for science students at the graduate level.

More information can be found on their website: https://cgi.duke.edu/web/sciwriting/index.php

WISE (Women in Science and Engineering) holds Successful Grant Writing for Graduate Students workshops each year. Graduate and Profession Women’s Network welcomes all advanced graduate students to attend a presentation by Dr. Ashutosh Chilkoti on grant writing: where to find them, how to write them, and how to get them accepted. Dr. Chilkoti is the Professor of Biomedical Engineering and the Director for Graduate Program and Center for Biologically Inspired Materials and Material Systems. He has been successful in obtaining peer-reviewed funding and served on a number of national and international reviewing bodies for many years. There will be plenty of time for a Q&A following the presentation. Check the website Events Calendar for workshop dates: http://wise.pratt.duke.edu/professional-development

Duke University School of Medicine Gopen Writing Seminars: Held annually in Oct./Nov., this four-part seminar series focuses on writing from the reader’s perspective. The series is based on the concept that in order to improve writing, it is first necessary to understand the process of reading. The ideas presented in this series of workshops have changed participants’ writing habits permanently, often resulting in improved grant-writing and publication success. The 12-hour workshop is divided into 4 sessions, each one building on the one before. For maximum benefit, those who register should plan to attend all four sessions.

Registration for Writing from the Reader’s Perspective typically opens 6-8 weeks prior to the first session. Exact program and registration dates are posted on the upcoming events page as soon as they are available. Registration is on a first-come, first-served basis.
Duke Continuing Studies & the Duke Thompson Writing Program, offers the 0056 Grant Writing 101 course: If you are a beginning grant writer, this course will provide you with the essential tools needed to write a successful grant proposal from start to finish. For those more experienced, this workshop will sharpen your skills and keep you up-to-date through discussions of current grant writing trends. Learn about the grantsmanship process - from foundation research and cultivation to the development and writing of a winning proposal. You will learn about the typical questions funders ask when considering a proposal and the criteria used. Class participants will have an opportunity to review and critique a proposal. Tips for ensuring grant compliance and improving your chances of future grant success will be discussed. This course is included in the Duke Thompson Writing Program for undergraduate students, but is also open to graduate students.

They also offer Writing Studio Handouts, including Scientific Writing for Scientists, which can be downloaded at the following site: http://twp.duke.edu/uploads/media_items/science-for-scientific-writing-handout.original.pdf

Student Affairs Career Center: The Career Center provides services, programs, events, online tools and resources for undergraduates, graduate students and alumni up to four years after graduation from Trinity College, Duke's Pratt School of Engineering and the Graduate School. Website: http://studentaffairs.duke.edu/career & Career Counseling for Graduate Students

LIVING @ DUKE
Living at Duke is about the people, places and opportunities overflowing on campus. It is also about you. So take a look around, take advantage of all that life on campus has to offer, and don't forget to take care of yourself. Web: http://studentaffairs.duke.edu/living-at-duke

Dining
Duke Dining Venues and Menus: http://studentaffairs.duke.edu/dining/venues-and-menus
Merchant-On Points: http://studentaffairs.duke.edu/dining/merchants-points
Shabbat Dinners: http://studentaffairs.duke.edu/jewishlife/shabbat-and-holidays#node-637

Getting Around
Campus Map: http://maps.duke.edu/
WeCars: http://parking.duke.edu/alternative_transportation/wecar/index.php
Bull City Connector: http://parking.duke.edu/buses_vans/bull_city.php
Triangle Region Transportation & Routes: http://www.gotriangle.org/transit/maps-and-schedules/

Important Student Information Resources
Graduate Student Affairs: http://gradschool.duke.edu/gsa/index.php
Graduate and Professional Student Council (GPSC): http://gpsc.duke.edu/
Other campus offices and information: http://students.duke.edu/

Engaging in the Community
The Oasis: http://studentaffairs.duke.edu/duwell/about-us#node-626
Outdoor Adventure Series: http://studentaffairs.duke.edu/ucae/programs/outpost-duke-
On-Campus Housing for Graduate Students

Housing, Dining, & Residence Life (HDLR) is a campus resource, within the office of Duke Student Affairs, for Duke University students to find rental housing in the Durham area.

Limited on-campus housing is available to full-time graduate students. Central Campus currently provides housing for 1,000 students. These apartments include efficiency, one-bedroom, two-bedroom, and three-bedroom units and are fully furnished. Priority for housing assignment will be awarded to graduate students who arrive from abroad on student visa status AND it is their first time attending school outside of their home country. Assignments are made in the order of receipt of completed applications. **Note: 2014-2015 rates not yet available.**

Web: [http://studentaffairs.duke.edu/hdrl/graduate-professional-students](http://studentaffairs.duke.edu/hdrl/graduate-professional-students)
Graduate Housing Application: [https://duke.qualtrics.com/SE/?SID=SV_6fDaLA0J14cqNVy](https://duke.qualtrics.com/SE/?SID=SV_6fDaLA0J14cqNVy)

Most graduate students rent off-campus housing from private landlords in Durham. HDRL maintains an online database of available rentals to assist students in their searches: [http://studentaffairs.duke.edu/hdrl/living-campus#node-1483](http://studentaffairs.duke.edu/hdrl/living-campus#node-1483). More information about off-campus housing is below.
Off-Campus Housing for Graduate Students
For those seeking off-campus accommodations, Duke provides Duke Community Housing as a resource for students, faculty, and staff to find and advertise rental-housing options in the Durham area. Duke offers these listings only as a service and does not screen landlords nor guarantee the quality of the housing listed. These listings are not comprehensive.

You may never have rented real estate before – and renting in the Durham area may be different in important ways from renting in your hometown. We’ve put together this guide to help you have a trouble-free experience. *Apartments near Duke (and popular with current students) are listed on the next several pages.* To search for properties and rooms for rent, visit the following sites:

offcampushousing.duke.edu
http://studentaffairs.duke.edu/forms/chouse/search.php
http://studentaffairs.duke.edu/hdrl/living-campus
http://gpsc.duke.edu/resources-and-advice/housing-guide/
http://www.chroniclehousing.com/
http://dukelist.duke.edu/