<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction &amp; Admissions</td>
<td>3</td>
</tr>
<tr>
<td>Structure of the Centre</td>
<td>4</td>
</tr>
<tr>
<td>Contact Information</td>
<td>6</td>
</tr>
<tr>
<td>Fields of Study</td>
<td>7</td>
</tr>
<tr>
<td>Student Funding</td>
<td>8</td>
</tr>
<tr>
<td>External Funding</td>
<td>9</td>
</tr>
<tr>
<td>Thesis Advisory Committee/GRF Learning Plan</td>
<td>10</td>
</tr>
<tr>
<td>Annual Reports</td>
<td>10</td>
</tr>
<tr>
<td>Degree Requirements</td>
<td>11</td>
</tr>
<tr>
<td>MSc Timeline</td>
<td>12</td>
</tr>
<tr>
<td>PhD Timeline</td>
<td>13</td>
</tr>
<tr>
<td>Comprehensive Exams</td>
<td>14</td>
</tr>
<tr>
<td>Appeal Process</td>
<td>15</td>
</tr>
<tr>
<td>CNS Events</td>
<td>16</td>
</tr>
<tr>
<td>Neuroscience Outreach Programs</td>
<td>21</td>
</tr>
<tr>
<td>CNS Awards</td>
<td>22</td>
</tr>
<tr>
<td>Endowment Awards</td>
<td>23</td>
</tr>
<tr>
<td>Research Day Awards</td>
<td>24</td>
</tr>
<tr>
<td>Expense Reimbursement</td>
<td>24</td>
</tr>
<tr>
<td>Thesis Defenses</td>
<td>25</td>
</tr>
<tr>
<td>Mini Masters Guidelines</td>
<td>27</td>
</tr>
<tr>
<td>CNS Course Descriptions</td>
<td>32</td>
</tr>
<tr>
<td>Resources</td>
<td>36</td>
</tr>
<tr>
<td>Code of Conduct</td>
<td>39</td>
</tr>
</tbody>
</table>
INTRODUCTION

The Graduate Student Handbook brings together information that we believe will be helpful to new graduate students in the Centre for Neuroscience Studies. This booklet contains information about the Centre itself, the guidelines and policies of the graduate program in Neuroscience, along with services that Queen’s University offers. Our aim is to provide information that will give you a greater understanding of how graduate education proceeds and a context within which to make effective decisions about your graduate program. The regulations and guidelines in this document are in addition to those specified in the calendar of the School of Graduate Studies and Research. Although every effort is made to keep the information in this booklet as accurate and up to date as possible, from time to time certain policies or regulations may change. Any questions that you have concerning the information in this booklet can be directed to the Program Assistant in the Centre for Neuroscience Studies or the School of Graduate Studies and Research.

Admission Requirements
The minimum requirement for admission is second-class standing (B, 73% or GPA 3.0) and the successful completion of one of the following degrees awarded by a recognized university: an honours bachelor degree in Arts or in Science; or a bachelor degree in Applied Science; or the degree of Doctor of Medicine; or equivalent. A four-year degree with laboratory experience is considered equivalent to an honours bachelor degree.

The minimum requirement for admission into the Ph.D. program is a master’s degree in Neuroscience, or in a field with a strong neuroscience and research component. Students registered in a master’s program at Queen's University, normally with first-class standing, and who show exceptional promise in their research, after at least two terms of full-time enrolment, may be admitted to a doctoral program without completing the requirements of the master’s degree. Such admission to a doctoral program requires the recommendation of the Centre, the approval of the Division according to its established procedures, and the approval of the Dean. (See Degree Requirements Mini-Masters)

Students with unquestionably superior standing in their honours bachelor’s degree, or equivalent, may be considered for direct admission to a doctoral program. Students admitted in this way must complete a minimum of two session-length or four-term length graduate courses during the doctoral program.

All applications are reviewed by our graduate program admission committee
STRUCTURE OF THE CENTRE

The Centre for Neuroscience Studies Graduate Program does not belong to a department. Students registered in this program are identified as being in the Centre for Neuroscience Graduate Studies only.

Administrative Structure
The Centre of Neuroscience Studies (CNS) was established in January, 2001 to act as the umbrella organization for neuroscience training and research at Queen’s University. The day to day activities of the CNS are directed by the Director of the CNS in consultation with various committees.

The Centre’s organizational chart can be found here: http://neuroscience.queensu.ca/contact/committees/orgchart

Contact Information

General Information
Location:
Botterell Hall, 18 Stuart Street
Queen's University
Kingston, Ontario
Canada, K7L 3N6
Look for Botterell Hall (#64) on the Queen's Campus Map
Look for 18 Stuart Street on Google Maps

Hours of Operation:
Monday - Friday 8:30am - 4:00pm
Phone: (613) 533-6360
Fax: (613) 533-6840

For individual contact information please see the following pages:

Faculty
Administration
Graduate Students
Post Docs
The Centre for Neuroscience Studies reports to the Office of the VP Research at Queen's University. It is a multidisciplinary research centre with faculty members from many departments across campus.
<table>
<thead>
<tr>
<th>POSITION</th>
<th>NAME</th>
<th>CONTACT INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director</td>
<td>Roumen Milev</td>
<td>Phone: 613-533-6000 x77274</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Email: <a href="mailto:roumen.milev@queensu.ca">roumen.milev@queensu.ca</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office: Botterell Hall, room 232</td>
</tr>
<tr>
<td>Manager</td>
<td>Kelly Moore</td>
<td>Phone: (613) 533-6000 x78285</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Email: <a href="mailto:kmm@queensu.ca">kmm@queensu.ca</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office: Botterell Hall, room 238</td>
</tr>
<tr>
<td>Graduate Coordinator</td>
<td>Gunnar Blohm</td>
<td>Phone: (613) 533-3385</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Email: <a href="mailto:blohmg@queensu.ca">blohmg@queensu.ca</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office: Botterell Hall, room 229</td>
</tr>
<tr>
<td>Program Assistant</td>
<td>Lucy Russo-Smith</td>
<td>Phone: (613) 533-6000 x77274</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Email: <a href="mailto:russol@queensus.ca">russol@queensus.ca</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office: Botterell Hall, room 236</td>
</tr>
<tr>
<td>Department and Financial</td>
<td>AJ Conway</td>
<td>Phone: (613) 533-6000 x78986</td>
</tr>
<tr>
<td>Assistant</td>
<td></td>
<td>Email: <a href="mailto:conwaya@queensu.ca">conwaya@queensu.ca</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office: Botterell Hall, room 257</td>
</tr>
<tr>
<td>Senior Secretary</td>
<td>Kim Suffron</td>
<td>Phone: (613) 533-6360</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Email: <a href="mailto:ks119@queensu.ca">ks119@queensu.ca</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office: Botterell Hall, room 257</td>
</tr>
<tr>
<td>Network Administrator</td>
<td>Mike Lewis</td>
<td>Phone: (613) 533-6000 x74139</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Email: <a href="mailto:mike.lewis@queensu.ca">mike.lewis@queensu.ca</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office: Abramsky Hall, room 117</td>
</tr>
<tr>
<td>MR Manager</td>
<td>Donald Brien</td>
<td>Phone: (613) 533-2811</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Email: <a href="mailto:briend@queensu.ca">briend@queensu.ca</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office: Cancer Research Institute, B08</td>
</tr>
<tr>
<td>Website Technician</td>
<td>Donald Brien</td>
<td>Phone: (613) 533-2811</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Email: <a href="mailto:briend@queensu.ca">briend@queensu.ca</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office: Cancer Research Institute, B08</td>
</tr>
</tbody>
</table>
FIELDS OF STUDY

Fields Of Study In The Program
The Centre for Neuroscience Studies (CNS) offers programs at both the M.Sc. and Ph.D. level in four Fields of Specialization.

• **Cellular/Molecular Neuroscience** – Research interests of faculty in this field include neuronal plasticity, neuronal degeneration and repair, neurophysiology and neuropharmacology

• **Systems Neuroscience** – Research interests of faculty in this field include neural control of cardiovascular and gastrointestinal function, sensorimotor control mechanisms, pain and analgesia, neural and signal transduction and neuroendocrine regulations

• **Cognitive/Behavioural Neuroscience** – Research interests of faculty in this field include neural substrates of behavior, age-dependent cognitive decline, cognitive and behavioural deficits arising from prenatal brain injury, effects of drugs on cognition and behavior and the effect of disease and injury on cognition and behavior

• **Clinical Neuroscience** – Research interests in this field include Stroke, ADHD, Autism, Cerebral Palsy, Parkinson’s, Alzheimer’s Disease, psychotic illnesses and spasticity

We strongly recommend you contact potential supervisors during the application process. An application that meets all the requirements but does not have an identified supervisor may not be offered admission into the program. Offers will be made pending supervisor availability. A list of supervisors actively recruiting can be found on our website:

http://neuroscience.queensu.ca/
FUNDING

Thesis-based graduate students enrolled in the CNS graduate program will receive funding packages to assist with living expenses and coverage of tuition: MSc - $21,000 minimum stipend; PhD - $23,000 minimum stipend.

At the beginning of each year funding eligible students (first 2 years of an MSc and the first 4 years of a PhD) receive a funding letter which breaks down the stipend payments. Student funding is comprised from a number of sources. Award payments, including Queen’s Graduate Award (QGA), are paid out in lump sums at the beginning of each term. Money being received from your Supervisor or the CNS is paid out monthly based on the term total (as per your funding letter).

Please note that a new payment system is currently being developed. This system will see all graduate student stipends paid as awards.

Teaching Assistantships

The Centre for Neuroscience Studies is not directly involved with assigning Teaching Assistantships. A very limited number of TA positions may be available through academic departments affiliated with the Centre. Graduate students who are interested in obtaining TA positions should apply directly to the department involved, with copies of all correspondence sent to the Graduate Office of the Centre for Neuroscience Studies. The CNS does not guarantee Teaching Assistantships to students enrolled in the program.

The current CNS policy with respect to TA payments is as follows: students are allowed to keep up to the first $2,000 of any TAship (or combination of TAships) in addition to the minimum stipend. If your TA (or combination of TA’s) exceeds $2,000 then the remaining amount is divided in half, with half going to the student and the other half being allocated towards your minimum stipend.

*There are also a limited number of TAships awarded through the Psychology Department. Students admitted as a result of this agreement will be made aware and the above policy does not apply.
EXTERNAL FUNDING OPPORTUNITIES

All graduates who meet the eligibility requirements for external funding must apply in order to be considered for internal awards.

**Canadian Institutes of Health Research (CIHR) Funding**
The Canadian Institutes of Health Research (CIHR) is Canada’s federal funding agency for health research. Composed of 13 Institutes, CIHR provides leadership and support to more than 14,100 health researchers and trainees across Canada. Funding from CIHR for graduate level studies is possible through a number of annual competitions. Students apply directly to CIHR. Details can be found here: [http://www.cihr-irsc.gc.ca/](http://www.cihr-irsc.gc.ca/)

**Natural Sciences and Engineering Research Council (NSERC) Funding**
NSERC is a federal funding and granting agency. The agency supports some 26,500 university students and postdoctoral fellows. NSERC aims to make Canada a country of discoverers and innovators for the benefit of all Canadians. The agency supports university students in their advanced studies, promotes and supports discovery research, and fosters innovation by encouraging Canadian companies to participate and invest in postsecondary research projects. NSERC researchers are on the vanguard of science, building on Canada’s long tradition of scientific excellence. Funding from NSERC for graduate level studies is possible through a number of annual competitions. Students apply directly to NSERC. Details can be found here: [http://www.nserc-crsng.gc.ca/index_eng.asp](http://www.nserc-crsng.gc.ca/index_eng.asp)

**Ontario Graduate Scholarships (OGS)**
The Ontario Ministry of Advanced Education and Skills Development will award up to 3,000 Ontario Graduate Scholarships (OGS) annually. The awards are tenable in all disciplines and the scholars must have a high level of academic achievement. The awards are intended primarily for Canadian citizens and for landed immigrants; however, a small number of awards may be made to student visa holders who are students at Queen’s University during tenure of the OGS. The current value of the award is $5,000 per term. The CNS deadline for applications is February 1st of each year and can be found on the SGS website under Provincial Awards. [https://www.queensu.ca/sgs/current-students/funding-awards-scholarships-and-bursaries](https://www.queensu.ca/sgs/current-students/funding-awards-scholarships-and-bursaries)
SUPERVISORY/THESIS ADVISORY COMMITTEE

Selection of the Thesis Advisory Committee

To further assist the student, a committee shall be formed by the supervisor to advise the student and supervisor regarding the scientific merit and feasibility of the thesis project. This committee will be composed of three faculty members, including the student’s supervisor. This committee will be formed within the first semester of the student’s program.

Graduate/Research Fellowship (GRF) Learning Plan

All students will submit a Graduate/Research Fellowship (GRF) learning plan. http://neuroscience.queensu.ca/graduate/current‐students/forms

The Learning Plan is designed to help the trainee to plan, and reflect upon, the activities that will be undertaken during the academic year, and to consider how these activities will contribute to the degree and program requirements as well as professional goals. This document should be completed together with the supervisor at the beginning of each academic year.

Annual Graduate Student Report

The purpose of the Annual Graduate Student Report is to monitor the progress of the student and to gain a formal assessment of the student’s progress by the supervisor and thesis committee. The due date for submission of the annual report to the graduate office is June 1. http://neuroscience.queensu.ca/graduate/current‐students/forms
DEGREE REQUIREMENTS

The requirements for the MSc Degree include:

The Centre for Neuroscience Graduate Program requires a minimum completion of 12 credit units at the graduate level. NSCI 800* (3 credit units, Current Concepts in Neuroscience) and NSCI 801* (3.0 credit, Quantitative Neuroscience) are mandatory courses. NSCI 801* requirement can be waived for students who can demonstrate material has been or will be covered in another course. All other courses are selected in consultation with the supervisor and Graduate Coordinator. Students without a broad background in neuroscience may be required to broaden their background in specific areas related to their research interests. In accordance with the rules set by the School of Graduate Studies and Research, students must obtain a minimum 3.0 GPA in courses that are core to the degree program. Otherwise, the student may be required to withdraw. In addition, a graduate course which is offered jointly with an undergraduate course cannot be taken for credit by any student who previously obtained credit for the undergraduate course (unless the student was accepted into the BScH/MSc program).

Also required is a research thesis, which demonstrates that the candidate is capable of original and independent work. Regulations governing the examination procedure can be found in section 8.6 of the School of Graduate Studies and Research calendar https://www.queensu.ca/sgs/graduate‐calendar.

Acceleration into a Ph.D. program without completing the Master’s thesis is possible for students who meet the criteria.

The requirements for the PhD Degree include:

A research thesis, describing original research conducted by the candidate. Regulations governing the examination procedure can be found in section 8.6 of the School of Graduate Studies and Research calendar. Additional information is also available from the graduate school’s document General Form of Thesis.

Some courses may be required by the student’s advisory committee to prepare the student for the comprehensive examination (see comprehensive exams), which all Ph.D. candidates are required to successfully complete within the first 2 years of study. Students who enter the Ph.D. program from another discipline may be required to take NSCI 800*.
![MSC Timeline Table](image)

**Admission**
February 1st to be eligible for internal awards

**Registration**
September of each year

**Course Section**
Beginning of each term

**Completion of learning research plan (LRP)**
Oct. 1st of each academic year

**CNS Research Day**
September each year (mandatory attendance)

**Selection of thesis advisory Committee**
First term

**Thesis Advisory Committee Meeting**
Prior to April 31st of first year (complete part I of MSc thesis form)

2nd meeting 4 months prior to anticipated defense date (complete part II of MSc thesis form)

**Annual Report**
Due by June 1st each year

**Mini-Masters Option**
Application for promotion directly to the PhD program must be done prior to April 31st of 2nd year

**Student Lunches with Director/Grad Coordinator**
Once in the fall and winter term each year.

**CIHR/NSERC Award Applications**
Fall term (deadlines are posted and announced)

Applications submitted in 2nd year should be for the PhD competition

**CIHR Vanier Award Application**
Fall term (PhD only)

**OGS Award Applications**
February 1st each year

Applications submitted in 2nd year should be for the PhD competition

**Brain Awareness Day**
May of each academic year (Mandatory Participation)

---

2nd Thesis Advisory Committee meeting will determine defense timeline.

Once thesis has been written and approved by supervisor defense can be scheduled.

Final thesis for defense must be submitted to all defense committee members and the CNS graduate office with a completed Oral Defense Form a minimum of 10 business days prior to defense date.

After the oral defense is completed and all revisions have been made the thesis can be submitted to QSpace.

Apply to Convocate.
<table>
<thead>
<tr>
<th>Event/Deadline</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Admission</strong></td>
<td>February 1st</td>
<td></td>
<td></td>
<td></td>
<td>Thesis Advisory Committee Meeting minimum 4 months prior to defense and complete part II of thesis form.</td>
</tr>
<tr>
<td><strong>Registration</strong></td>
<td>September of each year (early registration begins in August)</td>
<td></td>
<td></td>
<td></td>
<td>After the oral defense is completed and all revisions have been made the thesis can be submitted to QSpace (pg. 13).</td>
</tr>
<tr>
<td><strong>Completion of Learning Research Plan (LRP)</strong></td>
<td>Oct. 1st of each academic year</td>
<td></td>
<td></td>
<td></td>
<td>Apply to Convocate.</td>
</tr>
<tr>
<td><strong>CNS Research Day</strong></td>
<td>September each (mandatory attendance)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Selection of Thesis Advisory Committee</strong></td>
<td>First term</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Thesis Advisory Committee Meeting</strong></td>
<td>Prior to April 31st of 1st year (complete part I of thesis form)</td>
<td>Yearly</td>
<td>Yearly</td>
<td>Minimum 4 months prior to defense (complete part II of thesis form)</td>
<td></td>
</tr>
<tr>
<td><strong>Annual Report</strong></td>
<td>Due by June 1st each year.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Comprehensive Exam</strong></td>
<td>Must be completed by end of year 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Student lunches with Director/Grad Coordinator</strong></td>
<td>Once in the Fall and Winter terms each year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CIHR/NSERC Award Applications</strong></td>
<td>Fall Term each year (dates to be announced)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CIHR Vanier Award Application</strong></td>
<td>Fall Term each year (dates to be announced)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OGS Award Applications</strong></td>
<td>February 1st each year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Brain Awareness Day</strong></td>
<td>May each year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Thesis Advisory Committee Meeting minimum 4 months prior to defense and complete part II of thesis form.*

*Once thesis is ready for defense the oral defense form will need to be completed and submitted to the SGS a minimum of 25 business days prior to defense date.*
COMPREHENSIVE EXAMINATION REGULATIONS

A comprehensive exam in Neuroscience is designed to meet two objectives: 1) to examine the problem-solving skills of Ph.D. candidates, and 2) to test the ability of Ph.D. candidates to articulate, both verbally and in writing, concepts and facts relevant to the study of neuroscience. To meet these goals, each student will be assigned four ‘take-home’ questions normally chosen by the student’s Comprehensive Examination Committee. These questions will address four themes:

1. Ethical issues or historical events or science policy as set by granting agencies, government organization, etc. that affect the pursuit of neuroscience research.
2. A current topic in the student’s field of specialization.
3. Cross-disciplinary studies that illustrate the interactions between two or more fields of specialization. This question can include scientific disciplines outside neuroscience, such as immunology, mathematics, etc. where contributions from these disciplines have directly influenced the advancement of neuroscience.
4. A topic in neuroscience chosen by the committee that is directly related to the career aspirations of the student.

The student will have four contiguous weeks to complete the written component of the exam. Each answer should be no longer than 20 pages (double spaced, including figures, references, etc.). An oral exam, based on the above four questions, will be conducted normally within 3 to 5 days (no more than 14 days) of submitting the exam.

There are two forms that need to be filled out regarding the comprehensive exam. Form A (Composition of Exam Committee) is to be completed prior to the exam and Form B (Exam Result) is to be completed after the exam by the Chair of the examining committee. Both of these forms are to be returned to the CNS Graduate office who will notify the School of Graduate Studies and Research regarding the results. These forms are available from the Graduate Office or on the CNS website.

The oral exam will normally not exceed three hours in duration. This exam will be structured in the form of a defense. The examiners will confine their questioning to issues which have arisen from the written answers. Questions should be used to assess the student’s
understanding of concepts rather than details. Minutes of the examination will be taken by the Chair of the committee, who will record the subject area of questions as well as the responses to the student and comments of the examiners. The minutes remain on file in the Graduate office for twelve months. As in a thesis defense, the Chair offers members of the examination committee the opportunity to ask follow-up questions in a brief second round of questioning. At the end of the examination, the student will be asked to withdraw while the committee members discuss the student’s performance. The Chair will communicate the committee’s decision to the student, as well as any major or minor deficiencies identified by the committee. This communication will occur first orally immediately after the committee has reached a decision, and subsequently in writing, within two days of the examination.

The student’s performance will be graded as either a “Pass” or “Required to repeat”. The assessment, “Required to repeat”, will be used if a) the student obtains a failing grade (consistent with the regulations of the School of Graduate Studies and Research) in 2 or more questions, or b) the student obtains a failure in 1 question and an overall average of less than 65%. This strategy is designed to foster a proactive learning environment and is equivalent to interaction between authors, reviews and journal editors that occurs during the review process of manuscripts. The second comprehensive exam will normally be scheduled within 2 months of the first exam, but must take place no later than 12 months after the first exam. The second exam will be organized in the same manner as above, but will be restricted to only those questions where a mark of less than 65% was obtained. Failure to pass this exam will result in a recommendation for withdrawal.

Students are normally expected to write the Doctoral Comprehensive Examination by the end of the second year of Ph.D. studies, and must indicate their intent to do so on the Annual Student Report. Notice of intent should specify the student’s field(s) of study.

**Appeal Process**

An informal appeal should be directed initially to the Graduate Coordinator (within two weeks of receipt of the negative result). If an agreement is not possible at the informal level, a formal appeal should be directed in writing to the Director of the Centre for Neuroscience Studies. Appeal to the Director of the Centre for Neuroscience Studies may not be made until the student has exhausted all normal re-take possibilities. Beyond this level, the student may have recourse to the procedures laid down by the University Senate.
CNS EVENTS  (Mandatory Attendance for all CNS Students)

CNS Seminar Series
The Centre for Neuroscience Studies invites Canadian and international speakers to participate in its seminar series. The seminar program runs weekly from September to April. For the latest schedule please see our website http://neuroscience.queensu.ca/events-calendar/month

Participation in the seminars is a requirement for all graduate students of the CNS. Ph.D. students in year two or three will be expected to present their current research findings.

A trainee (graduate students and Postdoctoral Fellows) lunch will be held with the speaker on the day of the seminar to provide an opportunity to talk in a more informal setting. We would like to encourage students to participate in the lunches even if the research topic is not related to their own research.

Research Day
This event is organized in order to provide an opportunity for graduate students and trainees to present their research. There are opportunities for poster presentations and 3-minute talks. These events are an essential part of your studies in the neuroscience graduate program and all students are required to attend.

Student Lunches with Director and Graduate Coordinator
Students are provided with an opportunity once each semester to meet with the Director of the Centre, Dr. Roumen Milev and the Graduate Coordinator, Dr. Gunnar Blohm. This is an informal meeting over lunch where students are encouraged to discuss any relevant issues.

Brain Awareness Day
Brain Awareness is an activity listed under the umbrella of the Neuroscience Outreach Program (NOP). However, this activity is mandatory for all CNS graduate students due to the size of the event.
NEUROSCIENCE OUTREACH PROGRAM

The Neuroscience Outreach Program at the Centre for Neuroscience Studies is a nationally acclaimed outreach program aimed at improving the Kingston community’s understanding and awareness of all aspects of neuroscience. All of the Outreach programs are informative and designed to engage the researchers and the community. So whether you would like to participate in organizing and speaking at a lecture series, teaching athletes about concussions and brain safety, performing hands on experiments with kids, or crafting/destressing and providing company to elderly patients, there is an outreach program for everyone to volunteer with!

Outreach Programs

Science Rendezvous
Science Rendezvous is a national family-oriented event that showcases the scientific research taking place across Canada. The Faculty of Education at Queen’s University hosts the annual Science Rendezvous Kingston at the Leon’s Centre in the downtown of the city. The event is free to the public and families can come to learn about research in science, technology, and engineering, talk to scientists about their work, and take part in fun experiments and activities. The Centre for Neuroscience Studies is in attendance each year with a team of 8-10 graduate students to run interactive neuroscience demonstrations and to speak to the public about the research taking place within the Centre. In previous years, demonstrations have included eye tracking, EEG headband, EMG electrophysiology, optical illusions, and prism-reversing goggles. Last year, Science Rendezvous Kingston had a record-breaking attendance of almost 5,200 visitors and was awarded the STEAM Big Award for the best event in Canada.

Child & Adolescent Psychiatry Program
The Child & Adolescent Psychiatry Program currently consists of five graduate students from the Centre for Neuroscience Studies. Our volunteers go in pairs to the child and adolescent inpatient unit at Kingston General Hospital every Monday and Thursday from 5:30 - 7:00 pm. During our visits we aim to engage patients in some sort of physical activity (yoga, stretches, wii games), craft (coloring, painting, holiday-themed craft), or game (cards, board games, puzzles). The goal of our program is to encourage health and well-being, so we often focus on activities that are relaxing or beneficial to mental health. Patients range in age from 7 - 18 years old. Depending on how many patients are on the unit for any given night, our volunteers engage in either one-or-one or group-based activities.
Brain Bee
The Brain Bee is a three-tiered, world-renowned competition for future neuroscientists. The Centre for Neuroscience Studies has hosted the Kingston Brain Bee for the past eleven years. This competition for high school students aims to inspire an interest in neuroscience and brain research, as well as provides students with an enrichment opportunity to learn about concepts not typically taught until the third year of university or beyond. Students self-study topics related to the brain and nervous system, and then compete at Queen’s University in early April for the title of “best brain”. Competition day is open to the general public and includes numerous activities including a tour of the School of Medicine’s Anatomy Museum and a Student Career Panel. Over the past few years, the Kingston Brain Bee has grown substantially in terms of high school student engagement: from 2018 to 2019, there was a 133% increase in student competitors. As such, our team of graduate and undergraduate student volunteers has grown each year to meet this increased need. The Kingston Brain Bee is committed to being accessible for all students: it is free to participate, and there is no limit on how many students can compete. In this way, we hope to engage as many local students in this exceptional opportunity as possible.

Brain Awareness Day
Every May, the Centre for Neuroscience Studies plays host to approximately 250 grade 5 students from local elementary schools. The students enjoy a daylong event where they are engaged in demonstrations, activities, and hands-on experiments to teach them all about neuroscience research. The day of the event, the students are asked to submit research posters to us which are on display. The top posters are rewarded with prizes. This is an exceptionally well-received event with waiting lists each year of schools looking to participate.

Brain Badge
Teaching young children all about the brain is extremely rewarding! The Brain Badge program is a workshop for Sparks, Scouts, Brownies, Beavers, and Cubs (age 2-15 years old) in the Kingston and greater Kingston area. The goal for each Brain Badge session is to teach kids all about the brain. Our outreach volunteers meet various groups in the Kingston community and surrounding area to give 1-hour long sessions on Brain Safety, Mental Health, Learning & Memory and more. Kids earn a badge at the end of the session, as well as a few prizes! This program typically runs on an as needed basis over the winter semester when the Scouts and Brownies groups sign up for it.
RISE
RISE (Research and Information Science Education) is a research skills outreach program targeted towards middle school students. RISE teaches students best research practices that they can apply to their research projects in school and their future careers in science and non-science fields. Through classroom visits, public workshops, and social media, RISE ultimately aims to help students develop their critical thinking skills and become better consumers of information. Our main platform is based on four classroom visits per school led by one or two RISE volunteers. During these sessions, we educate students on topics such as the scientific method, navigating sources of information, referencing sources, experimental design, paraphrasing, and summarizing. Our volunteers are involved in leading sessions, developing content and lesson materials, recruiting local schools and coordinating visits, and managing our social media platforms.

Social Club
The Social Club is a unique program where volunteers come together to give back to the Kingston Community by engaging patients and residents at long-term care facilities (Providence Care Kingston) with various crafts and activities. These crafts are usually themed which can include things such as special occasions, seasons or holidays. The Social Club takes place on a monthly basis, for one hour in the evening. We currently have eleven graduate students that are involved in this club, and at each session there is a minimum of four volunteers that attend. The patient participation varies greatly each session; however, we can get up to twenty individuals.

Policy and Neuroscience Society
Our outreach program has 15 graduate students and meets once a month. We currently provide science graduate students with professional development in public policy issues and evidence-based decision making. Our ultimate goal is public outreach through improving accessibility of science and policy information. We have a website in development to connect public with evidence-based policy resources and layman information about underlying science concepts – for example: CO2 admissions reduction and current Canadian Carbon Pricing, Personal Health information anonymity and open data in Ontario, Canadian federal research funding. We have also made connections with like-minded professional
organizations such as Scientists for Advocacy and Action, Canadian Association for Neuroscience (Advocacy Team), Queen’s School of Policy Studies and Surveillance Studies Centre. Our program benefits our students who are involved (professional development & collaboration). Future beneficiaries include the public due to our strive for increased awareness.

CESAP
The Concussion Education Safety and Awareness Program (CESAP) is an outreach initiative led by Queen’s students from the Faculties of Medicine and Neurosciences. Our goal is to provide concussion education sessions in accordance with Rowan’s Law to high school students and young athletes in the Kingston area. Education sessions are executed through one-hour small group learning classroom sessions led by MD, MSc and PhD students, with the presentations tailored to the context of the class curriculum and Rowan’s Law. The role of students from the Center for Neuroscience studies is to provide evidence-based research into concussion prevention and management, with the help of local physicians and following Rowan’s Law guidelines. Experience is gained by providing patient education and translating medical evidence into digestible pieces of information for the public. Furthermore, our role includes disseminating best practice guidelines of management of concussions to high school’s training staff, coaches and athletes’ parents. By protecting young athletes, we aim to promote healthy and active lifestyles and minimize the short and long term effects of traumatic brain injury.

Beads of Purpose
Beads of Purpose (BOP) is a social enterprise that aims to aid adults with developmental delays to develop skills that will guide their involvement in employment rolls. There are many individuals with developmental and/or intellectual disabilities that graduate highschool and are: uninterested in current programs, searching for motivation and/or
require opportunity to foster skills for employment. So, BOP was created to facilitate purpose in the lives of those involved and to create a social connectivity between all participants and volunteers. The objective was to develop a team of volunteers and participants to create and sell homemade bracelets. Currently, BOP has collaborated with Community Living Kingston, to recruit individuals that would be interested in this type of opportunity. There are seven participants from Community Living that will be involved in BOP and five graduate student volunteers from Queen’s University. This small group will meet once a week to discuss different aspects of running a business and to create and sell the product. BOP is a very new program to the NOP, however, we aspire to continue growing and expanding to facilitate more participants from Community Living, which will also increase the amount of graduate students required.

**BrainStorm Speaker Series**
Each month from January through June students from Queen’s Centre for Neuroscience Studies talk about their research. These series are hosted in collaboration with the Kingston Frontenac Public Library.
CNS AWARDS

Centre for Neuroscience Studies Entrance Award
The Centre for Neuroscience Studies offers an Entrance Award to the top ranked student (Masters or Doctoral) entering the Neuroscience Graduate Program in each academic year. The Graduate Committee of the Centre for Neuroscience Studies will select the recipient of this award based on academic excellence and/or achievements in research. To be eligible for this award, application to the program must be received by February 1st. This one-time award is offered over and above the minimum guaranteed stipend and any other awards the student may receive.

Centre for Neuroscience Studies Outstanding Achievement Award
The Centre for Neuroscience Studies offers two awards (one each for students registered in the M.Sc. and Ph.D. programs, respectively) to recognize outstanding achievement by students registered in the Neuroscience Graduate Program in a given academic year. To be eligible for this award, the student must have completed at least three full terms of graduate study. The recipients of these awards will be selected by the Graduate Committee of the Centre for Neuroscience Studies. The criteria upon which these awards will be adjudicated include, but are not limited to: (1) academic excellence in Neuroscience graduate courses; (2) achievements in research (e.g., peer-reviewed publications, presentations at national and international scientific meetings); (3) scholarships and fellowships awarded by provincial or national organizations; (4) activities that promote and/or enhance neuroscience research and education at Queen’s University. These one-time awards are offered over and above the minimum guaranteed stipend and any other awards the student may receive.

GETA – Graduate Entrance Tuition Award
Awarded the highest ranked incoming MSc and PhD student. This is awarded by the School of Graduate Studies based on the submission of the Centre for Neuroscience Studies. This award is received in addition to their minimum stipend.

Centre for Neuroscience Studies Travel Awards
The Centre for Neuroscience Studies will provide travel awards for graduate students registered in the Neuroscience Graduate Program to attend national or international conferences. Graduate students may only receive this award once in each calendar year. The student must be first (presenting) author for an abstract submitted for presentation at the conference. Students who apply for the CNS travel award must submit a copy of the meeting abstract and include a notification of acceptance.
ENDOWMENT AWARDS

The endowment awards are given to students on the basis of academic and/or research merit according to the terms of references of the individual awards. These awards are used as part of the student stipend to help offset the cost associated with graduate students engaged in research in the Centre for Neuroscience Studies. These awards are allocated at the end of August each year for the upcoming academic year and are presented at the annual research day. These awards will be paid out in one lump sum under the direction of the graduate office in the Centre.

**Honourable Hugh F. Gibson Memorial Award** - awarded to either a PhD or MSc student on the basis of outstanding academic and/or research achievement in the area of Neuroscience with a focus on Alzheimer’s Research in the Centre for Neuroscience Studies at Queen’s University.

**Gordon Wallace Swan Memorial Fellowship** - awarded on the basis of academic excellence to funding-eligible Master’s PhD students enrolled in the CNS. Preference will be given to students who are conducting research in the neurodegenerative disorders that include PSP and Parkinson’s Disease.

**Latham Family Award** - awarded on the basis of academic excellence and/or research achievement to funding-eligible Master’s or Ph.D. level students enrolled in Neuroscience Studies. Preference will be given to students who are conducting research in Bullying, Behavioural or Addiction Research.

**Boag Family Fund – CNS Cellular/Molecular Neuroscience Award** - awarded on the basis of academic excellence and/or research achievement to funding-eligible Master’s or Ph.D. level students enrolled in Neuroscience Studies. Preference will be given to students doing innovative work in the area of cellular/molecular neuroscience research.

**The Queen’s Gang Award** - awarded on the basis of academic excellence and/or research achievement to a full-time graduate student registered in either a Masters or Doctoral degree program at the Centre for Neuroscience, in the area of Neuroscience with a focus on Stroke Research at Queen’s University.

**Webber Endowment** - awarded on the basis of academic excellence and/or research achievement to funding-eligible Master’s or Ph.D. level students enrolled in Neuroscience Studies with a focus on Alzheimer’s research.
Neuroscience Research Day – Award for Best 3 Minute Thesis Talk
This award is presented at the annual Centre for Neuroscience Studies research day to the student who has made the most significant contribution to the Neuroscience Outreach Program in the previous academic year. This award is open to any year MSc or PhD candidate. The award will be adjudicated by graduate student peers in the Centre for Neuroscience Studies.

Neuroscience Research Day – Award for Best Poster
One award will be presented at the annual Centre for Neuroscience Studies Research Day to the best Poster on display that day. The award will be presenting based on visual appeal, clarity, and novel research. The award will be selected by the faculty hosts of research day.

Neuroscience Outreach Program – Volunteer of the Year
This award is presented at the annual Centre for Neuroscience Studies research day to the student who has made the most significant contribution to the Neuroscience Outreach Program in the previous academic year. This award is open to any year MSc or PhD candidate. The award will be adjudicated by graduate student peers in the Centre for Neuroscience Studies.

EXPENSE REIMBURSEMENT SYSTEM (ERS)

Expense Reimbursement for Graduate Students
In situations where a (graduate or undergrad) student has an employment relationship with the university, those students will have access to the Expense Reimbursement System (“ERS”) resulting from that employment relationship (i.e. TAship). At this point in time, students who do not have an employment relationship do not have access to the ERS, and must submit any claims through the paper process. These forms can be found https://www.queensu.ca/financialservices/forms

NOTE: ANY REIMBURSEMENT (TRAVEL OR OTHER) MUST BE DISCUSSED AND APPROVED BY YOUR SUPERVISOR PRIOR TO ERS SUBMISSION.
THESIS DEFENSES

Oral Examination Procedures
The regulations governing the preparation and submission of a research thesis, may be found on the School of Graduate Studies & Research website (Degree Completion) at: https://www.queensu.ca/sgs/current-students/degree-completion

MSc Defense
The master’s thesis should demonstrate that the candidate is capable of original and independent work.

Prior to proceeding with scheduling a defense the student must have a committee meeting (4 months prior is recommended) and part II of the MSc Thesis form (http://neuroscience.queensu.ca/graduate/current-students/forms) must be completed and returned to the CNS Graduate Office.

An Oral Thesis Examination Form (Master’s) must be completed before a thesis examination can be scheduled to proceed. This form must contain all the confirmed details of the defense and be accompanied by a copy of the thesis. This form must reach the CNS graduate office no later than: 10 working days before the tentative examination date (weekends and statutory holidays do not count towards these time requirements). The candidate must submit one copy of the thesis, to each member of the Thesis Examining Committee including the Chairperson and must follow the same deadlines as outlined above.

The Master’s Thesis Examining Committee will be composed of the Chairperson, Director of the Centre (or delegate), Supervisor, and two additional faculty members. One of these examiners must be at arms length from the student and the supervisor, and must hold a primary appointment in a department different from that of the student's supervisor.
PhD Defense

A doctoral thesis must be original and be of such value as to merit publication. Prior to proceeding with scheduling a defense the student must have a committee meeting (4 months prior is recommended) and part II of the PhD Thesis form (http://neuroscience.queensu.ca/graduate/current-students/forms) must be completed and returned to the CNS Graduate Office.

An Oral Thesis Examination Form (Ph.D) must be completed before a thesis can be submitted for defense. For doctoral students, the completed and signed form must reach the School of Graduate Studies no later than **25 working days** before the tentative examination date.

**Doctoral students:** A PDF copy of the thesis must be submitted to the School of Graduate Studies (thesis@queensu.ca) to be reviewed for formatting. The student will be notified of any required corrections.
MINI MASTERS

Students registered in a Master's program at Queen's University, with first-class standing, and who show exceptional promise in their research may be considered for promotion to a doctoral program in the same Program, without completion of the Master's degree. Promotion to a doctoral program requires the recommendation of the Program, the approval of Council and the approval of the SGS. Students admitted to a doctoral program by the mini-master's route may not revert to the master's program within the same Program. In exceptional circumstances, the student may, after withdrawal from the doctoral program, seek readmission to the master's program in the same Program, or make application for admission to a master's program in another Program, through the normal application procedures.

Promotion into a doctoral program without completing the Master's thesis is reserved for students who meet the following criteria:

1. Must have completed at least one term, full time, and have completed at least two graduate courses, or equivalent.
2. Must complete all course requirements for both the Master's and Doctoral degree prior to graduation.
3. Should have an undergraduate honours degree with a minimum upper second class standing or equivalent.
4. Must have an overall first-class average in graduate courses completed.
5. Must meet Program criteria for demonstrating promise and ability at research. This may take the form of oral or written presentation as well as letters of support from faculty familiar with the student's progress.
6. Must apply to Council following one term of enrolment (4 months) and prior to the end of the fifth term of study (20 months). All requirements for completion of the mini-master's must be satisfied by the end of the sixth term.

Application Procedure
The student will meet with the supervisor, the supervisory committee and the Graduate Coordinator or delegate to agree upon whether he or she should apply to the Ph.D. program without completing the Master's thesis. During this meeting, the ramifications of the transfer to the doctoral program are to be clearly defined for the student.
The following documents are required for submission to the SGS:

- Updated transcript (internal transcript acceptable)
- A brief justification outlining the student's qualifications for admission (to be completed by the Graduate Coordinator or delegate)
- Letter of support from the supervisor
- Outline of student's current and proposed research.
- Completed application package for admittance to the doctoral program, including a decision sheet for acceptance into the Ph.D. program, "pending successful completion of the mini-master’s”.

The application will be forwarded to the Chair of Council. The Chair will either sign the decision sheet, thereby accepting the student into the PhD program pending successful completion of the mini-master’s examination, or, in the case where he/she queries the qualifications of the student, have the application forwarded to Council for discussion. Both the PhD Program Director in the student’s Program, and the supervisor must attend the Council meeting when the application is discussed.

No later than 40 working days after the approval to proceed via the mini-master’s route has been confirmed in writing by the SGS, the mini-master’s candidate will defend a written research report and proposal in an oral examination to an examining committee. The oral examination will be held no later than two weeks after submission of the written research report to the members of the examining committee.

**Procedure for Examination of the Candidate’s Research Report and Proposal for the Mini-Master's**

The candidate must prepare a written report that normally should not exceed 10 pages in length, single spaced (excluding Figures, Tables and References), clearly delineating the background of the research project, the work done to date, and the proposal for development of the research into a doctoral thesis. This report will be submitted to an examining committee composed of the following members:

- Head/PhD Director or Delegate as Chairperson
- Two faculty members who will cover content expertise if not covered by above
- Supervisor
At the examination, the candidate will present a 15-20 minute talk on his/her research report and proposal. This talk will be followed by an oral examination.

Questioning or comments of the examining committee will primarily relate to the background of the project, what the student has accomplished, and the basis for expanding the project. This should normally last no longer than 1.5 hours.

At the end of the examination, the candidate will be asked to leave the room while the examining committee members discuss the performance of the candidate. The examining committee will decide if the student will be recommended for direct advancement to the Ph.D. or not. Two or more negative votes by the examining committee will result in failure of the mini-masters examination. The decision of the examining committee shall be forwarded to the School of Graduate Studies and Research. Once the decision has been made by the examination committee the Mini Masters Defense Form found on the Centre for Neuroscience Studies webpage http://neuroscience.queensu.ca/graduate/current-students/forms is required to be filled out and then forwarded to the School of Graduate Studies.

Students who pass their mini-master’s examination will be allowed to transfer to the doctoral program in September. Council members will be informed at the next Council meeting of the promotion. Students who do not pass the mini-master’s examination will be allowed to complete the MSc thesis, according to SGS regulations.
Procedure for Examination of the Candidate’s Research Report and Proposal for the Mini-Master’s

The candidate must prepare a written report that normally should not exceed 10 pages in length, single spaced (excluding Figures, Tables and References). This written report should have the following approximate composition:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis Objectives</td>
<td>• clearly delineated background of PhD thesis proposal (i.e. literature review), and motivation</td>
<td>1/3</td>
</tr>
<tr>
<td>Work Accomplished to date</td>
<td>• report on work accomplished to date, i.e. summary of MSc project</td>
<td>1/3</td>
</tr>
<tr>
<td>PhD Proposal</td>
<td>• proposal for development of the research into a doctoral thesis. Provide an outline of projects planned for the PhD (i.e. thesis projects proposal). Each project should be presented in abstract form including for each project: title, goals, justification of approach, hypotheses, expected outcomes, anticipated impact</td>
<td>1/3</td>
</tr>
</tbody>
</table>

This report will be submitted to an examining committee composed of the following members:

- Head/PhD Director or Delegate as Chairperson
- Two faculty members who will cover content expertise if not covered by above
- Supervisor. (Note: it is the supervisor’s role to assemble the mini-MSc examining committee, including the chairperson.)
At the examination, the candidate will present a 15-20 minute talk, spending approximately equal time on their research report (MSc accomplishments) and proposal (PhD plan). This talk will be followed by an oral examination with questions and comments. The oral examination should normally last no longer than 1.5 hours and will spend approximately equal time on the MSc accomplishments and PhD plan, including the background of the thesis proposal. The committee will evaluate the following aspects of the proposal (following NSERC/CIHR guidelines):

1. Quality of research proposal
   a. specific, focused, and feasible research question(s) and objective(s)
   b. clear description of the proposed methodology
   c. significance and expected contributions to research

2. Relevant training completed or available; such as academic training, professional skill training or others

3. Demonstration of sound judgment and ability to think critically

4. Demonstration of responsible and ethical research conduct, including honest and thoughtful inquiry, rigorous analysis, commitment to safety and to the dissemination of research results, and adherence to the use of professional standards. The ability or potential to communicate theoretical, technical and/or scientific concepts clearly and logically in written and oral formats

At the end of the examination, the candidate will be asked to leave the room while the examining committee members discuss the performance of the candidate. The examining committee will decide if the student will be recommended for direct advancement to the Ph.D. or not. Two or more negative votes by the examining committee will result in failure of the mini-masters examination. The decision of the examining committee shall be forwarded to the School of Graduate Studies and Research. Once the decision has been made by the examining committee the Mini Masters Defense Form found on the Centre for Neuroscience Studies webpage http://neuroscience.queensu.ca/graduate/current-students/forms is required to be filled out and then forwarded to the School of Graduate Studies.

Students who pass their mini-master’s examination will be allowed to transfer to the doctoral program in September. Council members will be informed at the next Council meeting of the promotion. Students who do not pass the mini-master’s examination will be allowed to complete the MSc thesis, according to SGS regulations.
CNS COURSE LISTING

**NSCI 800*/3.0: Current Concepts in Neuroscience**
An advanced course that will focus on current research topics in selected areas of Neuroscience. Topics will include research in all fields of specialization within the Neuroscience graduate program (Cellular/Molecular Neuroscience, Systems Neuroscience, Cognitive/Behavioural Neuroscience, Neurological & Psychiatric Disorders) to introduce students to the breadth of research in Neuroscience. *This course is required for all M.Sc. students in the Neuroscience graduate program.* Fall term; G. Blohm
PREREQUISITE: An introductory course in neuroscience (NSCI 323/324 or equivalent), or permission of the course supervisor. Enrolment is limited with priority given to Neuroscience graduate students.
EXCLUSION: None

**NSCI 801*/3.0: Quantitative Neuroscience**
This is a tutorial-based introduction to quantitative methods for neuroscience research. The goal is to provide Matlab/Python-based hands-on skills in signal processing, basic and advanced statistics, data neuroscience (machine learning) and model fitting methods. This includes an introduction to scientific programming as well as causality-supporting methods and open science framework approaches. Winter term; G. Blohm
PREREQUISITE: None
EXCLUSION: None

**NSCI 803*/3.0: Magnetic Resonance Imaging**
This course is designed for graduate students who want to learn the theory and practice of magnetic resonance imaging (MRI) for anatomical imaging, imaging of dynamic physiological processes, and MRI to detect neuronal function (functional MRI, fMRI). The course will allow the student to gain an understanding of the principles that underlie the applications of MRI and fMRI as a research tool. Fall term; P. Stroman
PREREQUISITES: Introductory courses in Chemistry, Mathematics and/or Physics are preferred but not required. Permission of the Instructor.
EXCLUSION: None
**NSCI 813*/BMED 813*/3.0: Advances in Neuropharmacology**
Recent advances in understanding neurotransmission and pharmacology in the central nervous system will be discussed. The current literature describing progress in understanding molecular, cellular and behavioural aspects of brain function, and the impact of drugs and disease, will be examined. Winter; seminars. Given in years ending with an uneven number. Winter term; J. Reynolds
PREREQUISITE: Permission of the Graduate Program required.
EXCLUSION: PHAR 810*

**NSCI 815*/3.0: Special Directed Topics**
Designed for students with special interests that are not covered by existing courses offered in the Centre for Neuroscience Studies. Normally, this will take the form of a closely supervised reading course in the area of a graduate instructor’s expertise, but may also include supervised laboratory work and/or specialized clinical experience. Fall/Winter/Summer terms; G. Blohm
PREREQUISITES: Approval of Graduate Coordinator.
EXCLUSION: PHAR 810*

**NSCI 822*/3.0: Cellular and Molecular Neuroscience**
An in-depth study of the biophysical properties of neurons and diseases that affect the function of neurons and glia. Topics will include cable properties of dendrites, voltage- and ligand-dependent channels, and molecular mechanisms responsible for neuronal death and regeneration. The course will be based on lectures and student seminars of selected readings. Winter term; E. Dumont.
PREREQUISITE: None
EXCLUSION: LISC 422/ANAT 822

**NSCI 825*/6.0: Medical Neuroscience**
Please see the separate link on the main list of this page for a complete course description. A multidisciplinary graduate level course exposing students to the clinical aspects of neuroscience). Didactic lectures cover detailed organization of the nervous system with clinical implications. Laboratories review basic neuroanatomy and pathology. Clinical demonstrations expose students to several neurological disorders. Lectures, laboratories, and clinical cases. Winter. M. Kawaja.
PREREQUISITE: None
EXCLUSION: None
NSCI-826*/3.0: Cognitive Neuroscience
A course for graduate students to explore advanced concepts of cognitive processes in the central nervous system. This is a multi-disciplinary lecture/seminar course with active student participation expected. The course will consist of weekly sessions focusing on specific concepts such as perception, motor processing, reward systems, working memory, executive functions and decision making. Winter term; M. Pare
PREREQUISITE: NSCI-323*/324* or equivalent.
EXCLUSION: None

NSCI 829*/3.0: Disorders of the Nervous System
A multi-disciplinary course exploring advanced concepts of clinical neuroscience. Topics can include stroke, traumatic brain and cord injuries, neurodegenerative disorders, epilepsy, schizophrenia, depression, deep brain stimulation, pain and placebo effects, normal and abnormal aging, stem cells. Students will learn to critically evaluate scientific literature and present these concepts to classmates during student-led seminars. Enrolment is limited. Fall Term; D. Andrew.
PREREQUISITE NSCI 322* or NSCI 323* or ANAT 312* or PSYC 271* or permission of instructors
EXCLUSION NSCI 429*

NSCI 830*/3.0: Biological, Clinical, and Social Aspects of Dementia
The purpose of this course is to provide students with an overview of the major topic areas in dementia research and for students to gain an understanding of the complexity of dementia research across disciplines and research methodologies. The course is organized around four topic areas: basic neuroscience; clinical neuroscience; health services for in dementia and population health. This course will involve selected readings and presentations by student participants on topics related to dementia. It is meant to complement and expand upon topics related to dementia which are introduced in other courses at the CNS. Weekly seminars will be facilitated by faculty members affiliated with the CNS and other departments at Queen’s University. Winter Term; TBA
PREREQUISITE permission of course coordinators D. Seitz
EXCLUSION: None
**NSCI 844 */3.0: Controversies in Neuroscience**
As insight regarding the human brain expands, so do related issues such as what constitutes personhood, what drives the criminal mind, intelligence-enhancing drugs and end-of-life issues. Lead by experts who deal daily with such concerns, we will focus weekly on a particular topic in neuroscience which impacts society. Winter term; D. Andrew PREREQUISITE at minimum, an introductory course in the Neurosciences or permission of the instructor.
EXCLUSION: None

**NSCI 850*/3.0: Computational Approaches to Neuroscience**
This course will provide an overview and hands on experience of the most important computational approaches in Neuroscience. The main topics covered include single cell and neural network modelling, Bayesian approaches, State Space modelling and Optimal Control Theory. More specific modelling approaches will also be discussed as well as some widely used computational data analysis methods. Winter Term; G. Blohm
PREREQUISITE: Permission of Course Coordinator
EXCLUSION: None

**NSCI-855*/3.0: Modelling in Neuroscience**
This course is based on the annual Summer School in Computational Sensory-Motor Neuroscience (CoSMo), which is a 2-week (12 days) intensive course. Through lectures, tutorials and a problem-based project, students will gain advanced knowledge and experience in the application of computational methodologies to modelling in neuroscience. Summer term; G. Blohm
PREREQUISITE: none
EXCLUSION: none

**NSCI 899: Master's Thesis Research**
Required to be registered in the Master’s program.

**NSCI 999: Ph.D. Thesis Research**
Required to be registered in the Doctoral program.

Please note that students are not limited to graduate courses offered by CNS. Students can take graduate courses offered by other departments with the permission of the supervisor and the Graduate Program Coordinator.
**RESOURCES**

**International Students**
International students at Queen's University are provided with support through the Queen's International Centre (QUIC). The International Centre provides a variety of services to help international students get settled in Kingston including helping you with documentation ie. VISA etc. to permit studies in Canada, house hunting, assisting with settling your children into appropriate schools, tuition costs, expectations of living costs while in Canada, and many other important resources https://quic.queensu.ca/
The School of Graduate Studies also provides an abundance of information to international students about arriving at Queen’s and preparing for graduate studies. https://www.queensu.ca/sgs/prospective‐students/international‐students

**Accommodation of Graduate Students with Disabilities**
Queen's University is committed to providing accommodation for graduate students with disabilities. University administrators, faculty, staff and other students are expected to support, to the point of undue hardship, all reasonable individualized and appropriate accommodation plans that preserve the program's academic standards and adhere to the principles of academic integrity. https://www.queensu.ca/accessibility/educators/accommodating‐students‐disabilities

**Harassment and Discrimination (Queen’s University Policy and Resources)**
Harassment & Discrimination | Queen's University (queensu.ca)
IN-SIGHT Form | Human Rights Advisory Services (queensu.ca)

**Academic Counselling, Confidential Advising**
The Associate Deans in the School of Graduate Studies are available to graduate students who wish to talk about any academic issue they have. The Associate Deans will offer advice and lay out options to manage the specific issues. These meetings are in confidence and actions are only taken with the student’s consent. To make an appointment please contact the Administrative Assistant at sgsasst@queensu.ca.

**Society for Graduate and Professional Students, SGPS**
Your student organization represents and advocates for you on all levels of University administration and lobbies the federal, provincial and municipal governments on issues crucial to the well being and success of graduate and professional students. The executive, elected representatives and volunteer committee members represent graduate and professional interests and participate in the governance of the University Senate, the Board of Trustees, the University Council and over 40 University Committees. In response to the needs and concerns of our members, we also run several services including your Health and Dental Plan, our Bursary Program, the Peer Academic Advisors, and more.
Queen's Libraries
Students can access library materials on-site or via the internet with a Queen's netID. In addition, students can book study space, borrow materials from other libraries, seek advice on searching for the information you need, and access information about copyright, open access and scholarly communications. For service descriptions visit the Queen's Library website https://library.queensu.ca/.

Student Academic Success Services
Student Academic Success Services (SASS) offers academic support to students who wish to develop their skills in critical thinking, reading, learning, studying, writing, and self-management.

Ban Righ Centre
A free service that supports mature women students. The Centre has drop in student advising, study rooms, napping spaces and free coffee, tea and daily soup lunch. The Centre is open Monday to Friday from 9AM to 4PM. You may contact the Centre at 613-533-6000 ext 75363.

Student Wellness Services
There is a counsellor at Student Wellness Services that is dedicated to graduate students. Counselling Services supports the personal, academic and social development of students at Queen’s through a range of programs and services that aim to meet student needs. Student Wellness Services has moved towards a day-of appointment service. To make an appointment with an experienced professional counsellor in the Cote Sharp Student Wellness Centre, call 613-533-2506, Monday to Friday from 8AM to 4:30PM. If all same-day appointments have been filled, please call the next day, starting at 8AM, for same day access.

Telephone Aid Line Kingston (TALK)
This is a confidential, anonymous and non-judgemental phone line serving the Kingston community that is not directly affiliated with Queen’s University. Their aim is to meet the needs of a diverse population by providing an empowering, empathetic and safe environment through the provision of a listening phone service, as well as community outreach and education. The phone line is available daily from 7PM to 3AM and can be reached at 613-531-8529.
Empower Me
This is a 24/7 phone service for crisis situations and scheduled sessions that allows students to connect with qualified counsellors, consultants, and life coaches for a variety of issues. All Queen’s students can access sessions delivered in person, by telephone, by video-counselling, or by e-counselling. Empower Me is available 24/7, 365 days per year and is confidential, multilingual, culturally sensitive, gender inclusive and faith inclusive. You can always contact an Empower Me professional—no issue is too big or too small. Though Empower Me counsellors are qualified to support students in crisis, you don’t need to be in crisis in order to take advantage of the service. You can get support for issues of any kind, including relationships, family care, depression, anxiety, addictions, stress, work conflicts, and much more. Empower Me also offers a full suite of academic life services, such as life coaching, financial planning, and nutritional counselling. Call the 24/7 helpline at 1-844-741-6389 from anywhere in North America to be directly connected to a trained counsellor. You can also log in to the

Handbooks and Workshops
The School of Graduate Studies has created the Guide to Graduate Supervision (PDF, 485 KB), which offers graduate students, faculty, and other departmental members the guidelines needed to foster productive working relationships between supervisors and graduate students.

The Student Wellness Office has created the Supervisory Relationships (PDF, 2.08 MB) booklet for students that provides you with guidance and helpful tips about how to make the most of your supervisory relationship.

Advisory Programs and Counseling
Sometimes, problems arise with your supervisor. If this happens, try to seek help as early as possible. The SGS Habitat offers information on resources available on campus to ensure you get the guidance and support you need.

Mediation Between Supervisor And Student
It is recognized that despite the best intentions on the part of supervisors and/or students, problems may arise during the course of a degree program. Queen’s University encourages speedy and informal resolution. To ensure the fair treatment of graduate students by supervisors any unresolved disputes between a graduate student and a supervisor will be addressed by the Graduate Coordinator of the Centre for Neuroscience Studies. If warranted, the Graduate Coordinator will request that the Director of the Centre become involved.
Based on the recommendations of the results of the survey circulated to the faculty, staff and trainees of the Centre for Neuroscience Studies in 2019, the following Code of Etiquette has been established. It is essential for every individual to behave in a socially acceptable way. Etiquette refers to good manners which help an individual leave his/her (or their) mark in the society. Individuals must know how to behave appropriately and professionally in a working environment. We need to respect the organization of the Centre and maintain a level of professionalism in all manner of interactions. This code refers to interactions between all people working under the umbrella of the Centre: faculty, staff, graduate students, visiting researchers and trainees of all levels. We want to create a positive everlasting impression of the Centre for those of us who work here, those who study here and those who visit us from national and international organizations. Most importantly we want to ensure the Centre is a psychologically safe and healthy workplace.

Simple guidelines to follow:

• All communication on CNS forums or social media that are created either formally or informally by various groups should professional and positive in nature. Anything written should be done with the intent that it could potentially be seen by the public. Be mindful you are representing the CNS.

• Malicious gossip or in-group fighting is not acceptable in a workplace environment. Please consider both sides of situations and refrain from making negative comments or spreading negative information about others. In the event of issues, please follow the CNS chains of command which for graduate students is the Graduate Coordinator and then Director. Faculty and staff should consult the Director, CNS.

• All meetings should be conducted in a positive manner, be run on time and be as productive as possible to ensure we respect the good use of everyone’s time.

• All written communication such as emails or letters should be presented in a positive form and where possible provide suggestions to solve issues that would be mutually acceptable.
• Use personal and professional integrity when dealing with individuals in any situation. Disagreement is healthy and productive if presented in a positive way.

• Ensure confidentiality at all times. Consider the information being shared. If you are unsure of the nature of confidentiality, it is always safer to ask first.

• If you are a trainee in the Centre and experience any breaches in the code of etiquette we would ask you to address your supervisor, the graduate coordinator, the Director of the CNS and failing that, the School of Graduate Studies. Staff members or faculty should address their concerns to the Manager and/or the Director of the CNS.

Approved: January 2020
Revised: February 2020